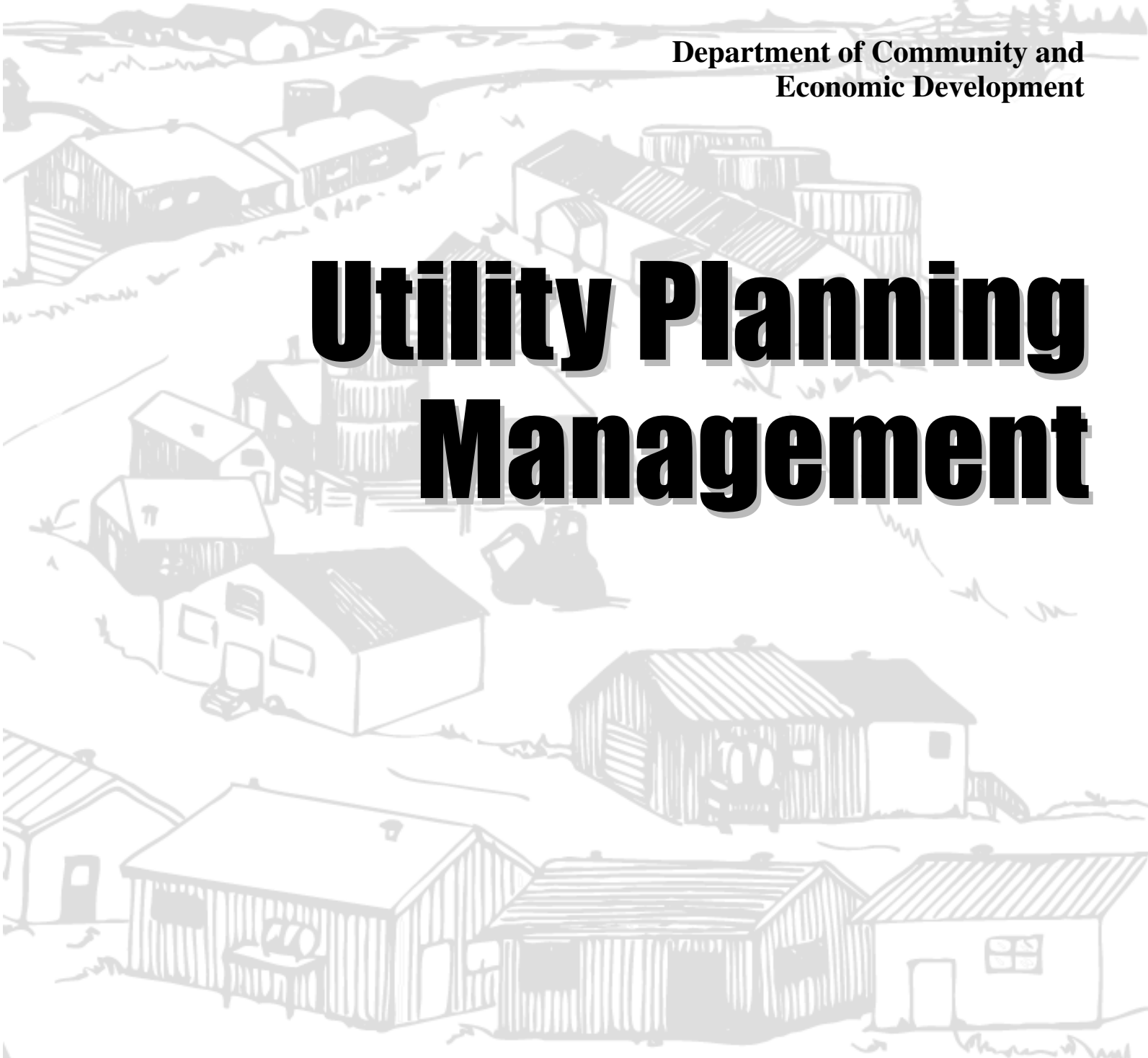
State of Alaska

Department of Community and Economic Development

Utility Planning Management



Instructor's & Student Manual

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Utility Planning Management

Instructor's Guide

State of Alaska
Dept. of Community and Economic Development
Rural Utility Business Advisor Program

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Advanced Utility Planning

Background for Course

Utility Management Training Series
This course was developed as one of a series of six courses to provide utility managers of small sanitation facilities a basic understanding of the principles and practices involved in managing water and wastewater sanitation facilities. Each class is a 32 hour course.

The first course in the series is Introduction to Utility Management. This course provides and overview of what it means to manage a utility, and breaks the management of a utility into five sections; organizational management, personnel management, planning management, operational management, and financial management. The five remaining courses each cover one of these topics to a greater depth. The order that a student completes the classes is unimportant other than the Introduction class should be taken first. It is hoped that by the time the utility manager completes all six of these classes, that they will have a good understanding, and the tools to address most of the issues that they will have to face in managing a utility.

Often we are asked, "Who should attend this class?". The classes are targeted at managers of water and wastewater systems in communities with a population between 100 and 1500. Communities smaller than 100 will usually have very limited systems and staff, and not need to, nor have the capabilities to do most of the processes, described in this course. Those systems that serve communities over 1,500 in population typically have hired experienced professional staff that have already implemented the process described here, or contract for their implementation. What if there is not a person with Manager as title? While there may not be a person with that title, there is usually one person that is responsible for overseeing the day to day operation of the utility, this person is the Manager. This person can actually be Council Member, Mayor, Chief, Operator, or Clerk. The easiest way to identify this person is to ask either the clerk or operator "If a customer came to you with a complaint that you could not fix immediately, who would you go tell them to talk to?" That person is most likely the Manager.

Advanced Utility Planning Class
This course is the advanced course specifically on planning for water and wastewater utilities. We realize that there are many ways to do planning. This course is based upon the process described in The Alaska Sanitation Planning Guide for Small Communities. The planning steps described in this course will lead you through a process that will give you a good quality plan. If you are have already started planning, and are using a different process, there are also many topics discussed in this course that can be applied to your planning process to make sure that it does not miss any critical steps.

While this class is aimed at sanitation utility planning, to a large extent planning is planning. Most of the processes described in this course can be applied to any planning process that may be going on in a community.

Layout of the Instructor' s Guide

Several versions of the instructors guide (and student manual) were developed before the present version was settled on. In this version, the instructor' s guide contains both instructions to the instructor, and the complete student manual. Starting with Chapter 1, the instructions to the instructor are found on the left hand side of the page, while the student manual page is printed on the right hand side. Both pages are keyed to a certain overhead which is displayed at 1/4 size on the student page, and thumbnail size on the instructor' s side.

It is anticipated that the overheads will be the focal point of the teaching. The *Speaker Notes* are keyed to the points listed on the overhead. The *Instructor Tips* section is intended to give the instructor some background information on why these points are listed, and connections that should be made. The *Ideas for Real Life Examples* is pretty self-explanatory. It is STRONGLY encouraged that the instructor take the time before the class to jot down some notes of personal experiences in these sections. In teaching these workshops over the past several years we find that it is these real life examples that have created the greatest connections with students. These connections are key in getting discussions going as the course progresses.

The instructor' s page also has a *References* section. This will list things such as where in the Planning Guidebook that the topic is discussed, where in the Technical Appendix of the guidebook the form may be for the topic, or what other reference material may be referenced.

If an exercise has been developed that seems to fit into the curriculum a this time, a red *Exercise* box will appear below the thumbnail of the overhead. That does not mean that you must use a exercise at this point. It is just a clue that if you would like to use an exercise, there is one in the curriculum that will fit with the topic being discussed. The specifics of the exercises (often there will be more than one) will be listed in the *Speaker Notes* section.

Finally, there is a *Time Bar* located right above the *Speaker Notes* box. The *Time Bar* is intended to let you know where you are at in the chapter. It does not take into account any exercises you may want to include, or time needed for worksheet completion and review. Just the overheads/lecture portion. If you are on the 5th of 10 overheads, the *Time Bar* will be 50% shaded.

Delivery Sequence

There are 8 chapters in the class. Each chapter represents a 4-hour block of time. Chapters 1 and 8 include the pre and post tests, so the presentation sequence for them will be unique. The presentation sequence for chapters 2-7 will be similar. Each of these 4 hour blocks will contain approximately 90 minutes of lecture, 80 minutes for exercises, 20 minutes to complete the worksheet, 20 minutes to discuss the worksheet, 10 minutes to complete the action plan, leaving 20 minutes for breaks (usually two 10 minute breaks). The time for the exercise can be split between several (usually 2) short ones, or one longer one.

For chapter 1 which contains the pre test, the sequence is usually: Welcome remarks 15 minutes, housekeeping items-15 minutes, Introduction lecture (part 1)-30 minutes, pre test-60 minutes, Exercise-45 minutes, Intro lecture (part 2)-30 minutes. That will leave about 25 minutes unaccounted for. We did this intentionally to give some freedom in altering the lesson plan. Sometimes it will be hard to get everyone together to start, it may take more or less time for folks to complete the pre test, or depending upon the number of students, the recommended exercise may take more time. Hopefully the instructor can use this first recommended exercise to start a discussion, and making connections with the students that will carry through the class.

In chapter 8 the key is to leave enough time to grade the test. To do this, the lesson sequence that is recommended is: review of material – 45 minutes, post-test 60 minutes, action plan development – 30 minutes, discussion of action plans – 45 minutes , discuss test – 30 minutes, and hand out certificates – 15 minutes. There is no time allotted from breaks. In practice, there is a lot of time for students to take a break either by completing their action plan early, or finishing the test early.

Pre and Post Tests

The Pre and Post Tests are not used to judge a specific level of competency for the course. The pre and post test are the same questions, asked in the same order. This makes them useful in two ways. The first is to see how much each student learned during the class. The second is to evaluate how well the class was taught.

In the past, when looking at the scores of the students, it is very typical to see a 30-60% increase in scores from the pre to post test. There have been exceptions to this however. If the students scored high on the pre test, it is common for the increase to be under 10%.

The most useful purpose to the pre and post tests have been to guide the instruction. Looking at the topics of the pre test questions that are missed can give the instructor an idea of which areas need to be emphasized during teaching of the class. Evaluating which questions were missed on the post test sometimes reveal where ideas discussed during the class were presented in a confusing and contradictory way. While this is of little use to the students at the current class, it will help are useful in comparing improvement this course to provide focus and insight. Finally, a tally of which questions were missed most on the pre and post test allows us to find confusing, contradictory, or just plain bad questions.

Originally 100 different questions were developed for the tests. For ease of use, we have created two different 50 question tests. These have been designated Test A and Test B. You can use either one test for all students or divide the class and give both test A and test B. If you do the latter, you should record which students received which test so that they can be given the same test for the post test.

Using the Overheads

The overheads are the primary visual tool used to present the course. We have found that the having them as overhead transparencies works best. Overhead projectors are found in most regional centers and don' t require the instructors to haul equipment to the location. The overheads are available as a PowerPoint document. The file is approximately 25MB in size, so it would have to be put onto a hard disk or CD.

The course materials is highly integrated with the overheads. If overheads need to be skipped or reordered, you will need to let the students know, so that they will not become confused since the overheads appear in the student guides.

Using the Exercises

There were a large number of exercises developed for the training, more than can be given in any one class. This was intentionally done to allow the instructor the flexibility in giving the course. Which exercises are used will vary with class size, materials available, interest in certain topics, or time available during the session.

If an exercise has been developed that seems to fit into the curriculum at a certain spot, a red *Exercise* box will appear below the thumbnail of the overhead in the instructor' s guide page. A description of the exercise will appear in the Speaker Notes section. You are not required to use the exercise if it is shown, this is just a suggestion. Some exercises may be suggested at several points in a lesson, **or in several lessons**. You should go though the course in advance and select which exercises you want to use. You may want to keep some of the more versatile exercises in reserve in case you finish a lesson early.

Exercises are a key piece of the Utility Management Training materials. In designing the training, there were several reasons for including a large number and type of exercises. The first is allow the participants to apply the principles and ideas being taught. Learning by listening is only so effective. By allowing/ requiring the participants to apply techniques or approaches to situations, they must develop a greater understanding of the topic and how it can be applied, or the pitfalls of applying it in real life.

A second reason is to vary the pace of the workshop. It is strongly encouraged that there be separate areas for listening to the lecture and doing the exercises. This gets the participants up and physically moving, and it allows them to keep their books and other materials in one place without having to clear the tables to do the exercise or get into groups.

The exercises vary between individual, small group and large group. 12 people for the class is ideal, because it can be easily divided into groups of 1, 2, 3, 4, or 6. We have found that groups of 3 or 4 work best. It allows everyone to participate, but is not to large the people can let a couple do all the work. Whether to keep the same small groups together throughout the course, or to constantly change them really depends upon the personality of the participants. If the participants seem to be shy, it is generally better to keep the groups the same. This allows them to become comfortable with their teammates throughout the week. the room be set up so that the participants must physically move away from where they sit and listen to the lecture to complete the exercise. there be areas away from the main teaching areas for participant to do the .

Using the Worksheets

The worksheets are designed to act as a chapter review. Some participants prefer to fill in the worksheets during the discussion. Others will want to wait until the lecture and discussion is over to complete them. In the course introduction you should let the participants know that either method is acceptable.

The course as planned allows time to complete the worksheets at the end of each chapter. There should also be time programmed to review the worksheets. In giving this course is the past, we have found it extremely helpful to vary the method of the review. Different methods include:

- Going around the room in sequential order and having the students answer the question
- Picking students at random to answer questions.
- Selecting students to answer questions by having them raise their hands.
- Dividing students in teams and making a competition of it. This is done by alternately asking each team a question. If they answer it correctly, they get one point, if they miss it they lose one point and the other team gets to try and answer it. If you are going to use this review method, it is advisable to break them into teams, and give them 5 minutes (or some appropriate, but limited time) to complete the worksheet first. This requires them to work as a team to get all the answers.

Answer sheets to each worksheet should be handed out after the review period is completed.

Using the Action Plans

The Action Plans grew out of a need for helping participants with follow up. The workshop introduces a large amount in information, ideas, and processes. Ideas that come to students in the early part of the workshop tend to get lost by the end of the workshop.

The idea of the Action Plan is for the student at the end of each section (lessons 2-7) to write down at least one thing (and no more than 3) that they learned that lesson that could be done in their community to improve things. On the final day after the post test, participants can take the 6 action planning sheets that they have and prioritize the top 3 things that they feel need to be done, and can be accomplished in their community.

Generally, as part of the summary wrap up (while someone is scoring the post test), a flipchart can be put up for each community and the top three Action Plan items can be listed and discussed. This is useful for a variety of reasons:

> It gives the participant a chance to say what they feel and sometimes modify or add to their action plan list.
>
> I gives other participants a chance to see what other communities are struggling with, what they will be doing, and possibly opens up opportunities for networking between communities.
>
> The instructor can take note of what participants are focussing on. This can give a hint at where the training was especially liked, or where more training may need to be done.
>
> The Action Plan can be copied down and used by technical assistance people to provide follow up assistance.

Teaching Material Checklist

- ❑ Student Manuals
- ❑ Acetate overheads
- ❑ Worksheets
- ❑ Worksheet answers
- ❑ Pre & Post test
- ❑ Pre & Post test answers
- ❑ Copies of exercises (and any exercise materials that may be needed such as maps)
- ❑ Copies of reference material if needed (planning guidebook, technical appendix, master plans)
- ❑ Overhead projector
- ❑ Screen for overhead projector
- ❑ Extension cord
- ❑ Flip chart and easels
- ❑ Broad tipped markers for flip charts
- ❑ White board markers (if necessary)
- ❑ Masking (drafting) tape for hanging up flipchart sheets on walls
- ❑ Pens\pencils for students
- ❑ Student registration forms
- ❑ Completion certificates
- ❑ Prizes
- ❑ Slide projector (if using PowerPoint instead of overheads)
- ❑ Student Manuals

Room Setup Checklist

- ❑ Enough room for separate area for lecture and exercises
- ❑ Electric outlets that are nearby and work
- ❑ Are chairs/tables set up to allow everyone to see screen, and have enough room to spread out materials?
- ❑ Know location of light switches, heating controls, restrooms
- ❑ Find out policy on taping flipcharts to walls (allowed? Type of tape? Pinning instead of taping?)
- ❑ Are arrangements for coffee\tea made
- ❑ Are arrangements for snacks made

Reference Materials

There are several supplemental materials listed below that are referred to during the course. There are also a several sources listed that may have material you could use to supplement the teaching materials. The supplemental materials are useful complements to the other training materials. For example, you will see references to the sanitation planning guide and technical appendices. In addition, it could be useful to obtain a copy of a sanitation master plan from another community in your region. Review an actual sanitation master plan to see how the ideas you learn in the course are explained or described in the actual planning document.

It is recommended that you have a copy of any reference materials used or discussed in the class available for students to review. You can set up a reference book table in the back of the class for the materials to sit on all week. You may want to put a sign up sheet for the students to request certain materials be mailed to them. Do this only for those materials that you can get copies of.

Alaska Sanitation Planning Guide for Small Communities, June 1999, Alaska Department of Community and Economic Development.

Technical Appendix to the Sanitation Planning Guide , June 1999, Alaska Department of Community and Economic Development.

Village Land Reconveyance Planning – A Handbook on ANCSA Section 14(c) , updated 1991, Alaska Native Foundation

Section B

Course Material

Instructor Tips

• Make sure everyone has a student manual.

• The setting is important. Organize the room (tables, chairs, audiovisuals) to fit the size of the group and the shape of the room.

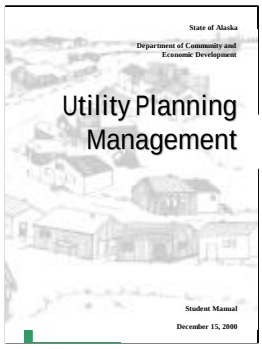
• Test all audiovisual equipment such as the slide projector, overhead, microphones, and screen, ahead of time.

•Supplies (bulbs, markers, extension cords, easels, pads, nametags).

•Be flexible (i.e. be ready to do the presentation without electronic media etc.)

References

- Sanitation Planning Guide (SPG)
- SPG Technical Appendices



Overview Slide

Speaker Notes

Use this slide to provide a brief overview of the class materials.

•Introduce yourself and welcome participants to the DCED Introduction to Utility Planning Course.

Describe how to use the student manual

•The manual covers the course called "Introduction to Utility Planning" and is divided into a series of lessons. Each lesson covers a single topic. There are 8 lessons total in the course. Briefly explain what you will cover in the course.

•You may want to point out to students that slides you will be using are contained in their manuals.

Identify supplemental materials

•There are several supplemental materials that might come in handy. In particular, you should have a copy of the sanitation planning guide and technical appendices. You may also want to have a copy of an actual sanitation master plan from a real community.

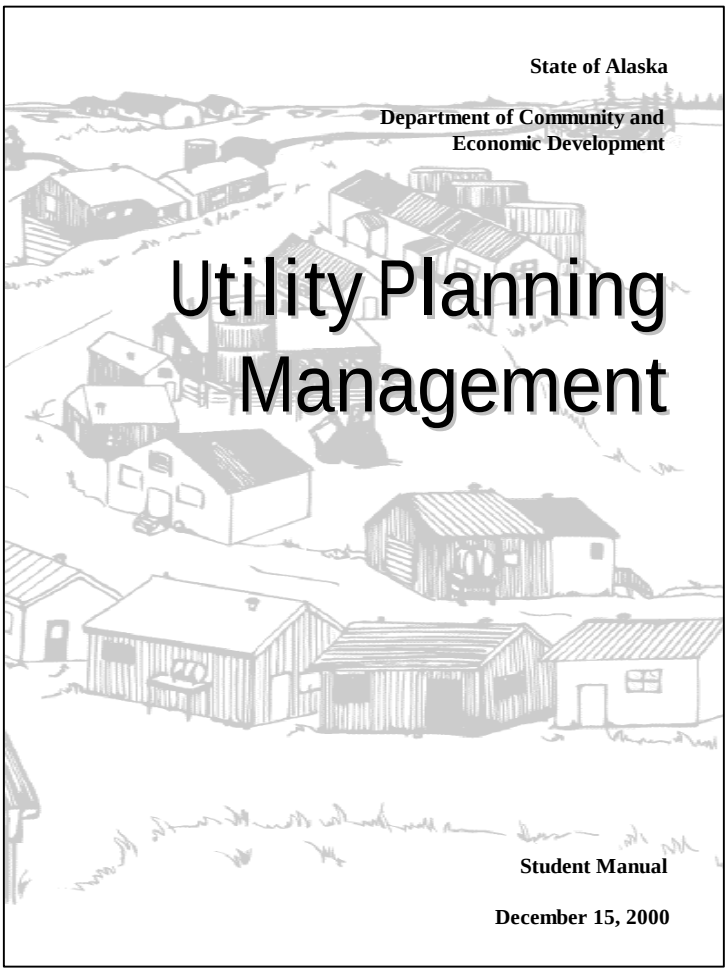
Describe the role of the supplemental materials. The supplemental materials are useful complements to the other training materials.

Prompts for the location of these materials are included in the manual and the slide show in the box called References.

The blue box indicates the slide is an overview with more information to follow. The red box indicates an exercise is to be conducted. Text highlighted in **green** represents a potential test question.

Overview Slide **Exercise**

Course Introduction



How to use this student manual

The student manual covers the course called "Introduction to Utility Planning" and is divided into a series of lessons. Each lesson covers a single topic. There are 8 lessons in the course.

All slides used during the course are included in the manual.

Supplemental Training Materials

There are several supplemental materials to assist you during the course and later when you return to your community. The supplemental materials are useful complements to the other training materials. For example, you will see references to the sanitation planning guide and technical appendices. In addition, it could be useful to obtain a copy of a sanitation master plan from another community in your region. Review an actual sanitation master plan to see how the ideas you learn in the course are explained or described in the actual planning document.

Organization of the Student Manual

There are several exercises that will be completed during the course. There are also a pre-and post-test. There are also worksheet for most of the chapters to help review the material.

Purpose of the Worksheets and Exercises

The worksheets and exercises are a large part of the course. Each lesson has a worksheet and exercise provided. They are designed to complement and expand upon the materials discussed in the lessons.

Goal of this Lesson

To understand the basic outline of the DCED Utility Training program and the outline of the 8 Lessons that make up the Utility Planning Course.

Educational Objectives

After completing this lesson participants should be able to -

• Identify you by name.

• Identify the 6 courses that make up the DCED utility training program.

• Identify and briefly describe the 8 training lessons that make up the Utility Planning Course.

Schedule:

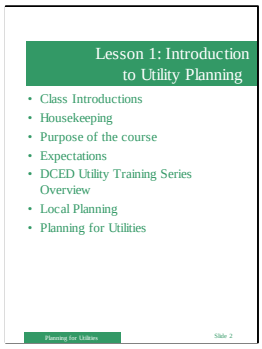
Lesson 1: 4 hours

Length:

- Introductions 1 hour
- Icebreaker 15-30 minutes
- Course Overview 1 hour
- Pretest 1 hour

Equipment/Supplies:

- Overhead Projector
- Name tags for each student
- Student Manuals
- Exercise 1 Materials.
- Pretest for each student



Exercise 1

Overview Slide

Speaker Notes

- **Use this slide to provide a brief overview of the first lesson.**
- Give a brief description of your background and credentials.
- Pass around a sign-in list.
- Point out the location of fire exits, telephones, restrooms, drinking fountains, food, etc.
- Have participants introduce themselves by sharing their names, the community they are from, and what position or job they hold in the community.
- Have participants explain why they are taking the course.
- Explain the requirements to get continuing education credits.
    - Completion of pre and post tests.
    - Attendance.
    - Etc….
- Share the overall goal of the course with the students.
- Briefly describe the contents of the student manual.
- Share the goal of Lesson 1.

Conduct Exercise 1 -- ” Ice-breaker” exercise

Purpose of exercise 1 is to increase student “comfort” level in the class by getting to know other students.

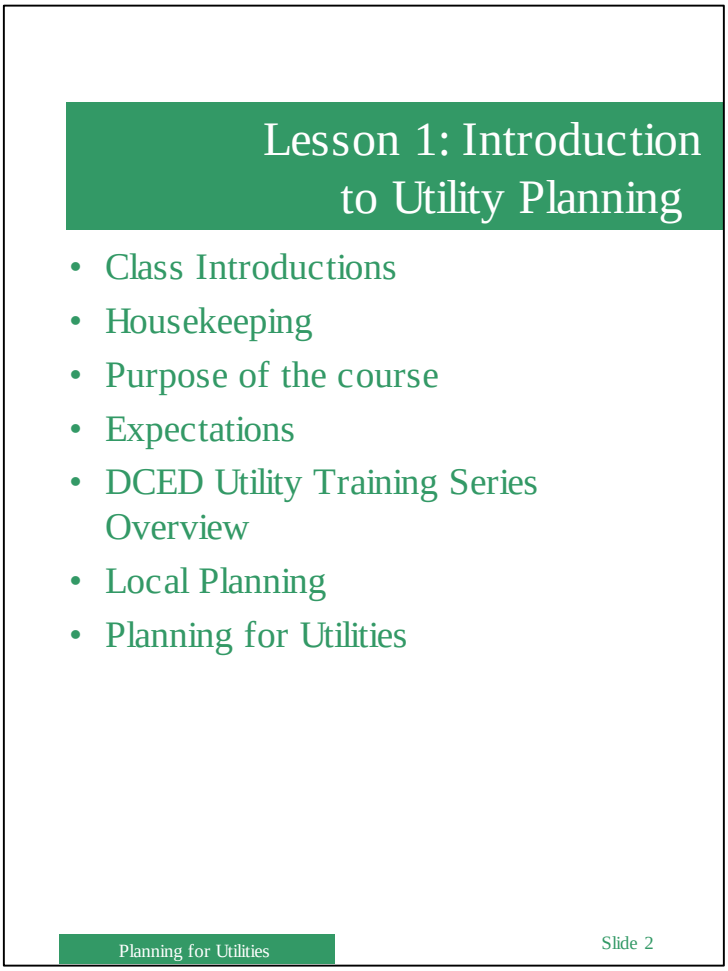
Lesson 1 Introduction to Utility Planning

Lesson 1: 4 hours

Schedule:
- Introductions 1 hour
- Icebreaker 15-30 minutes
- Course Overview 1 hour
- Pretest 1 hour

Learning Objectives

After completing this lesson you should be able to identify the 6 courses that make up the DCED utility training program and identify and briefly describe the 8 training lessons that make up the Utility Planning Course.



The student manual contains information that corresponds to each lesson lecture, references for additional information on sanitation planning, and a set of worksheets.

Overview

This lesson is an introductory lesson that describes the basic outline of the DCED Utility Training program and the outline of the 8 Lessons that make up the Utility Planning Course.

The Governor' s Council on Rural Sanitation sponsored development of this curriculum along with the Sanitation Planning Guidebook (supplement to this course) because they discovered that it is not enough to provide money and engineers and materials to rural communities. Building a good water and sewer system is part of building a good community and it takes the whole community to do that, working as partners with agencies and consultants. This course is designed to improve your understanding of the planning process.

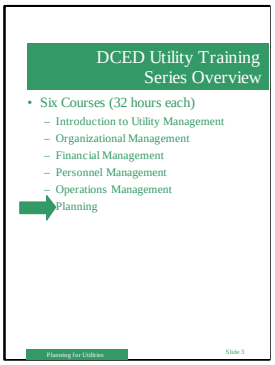
Lesson 1 Introduction

Instructor Tips

• This is an overview slide to introduce the students to the 6 utility courses offered by DCED.

• Don't spend too much time on this slide as additional slides follow with more detail.

• You may want to have a set of the other course manuals to show students.



Overview Slide

Ideas for Real Life Examples

• Think of some typical problems faced by utility managers e.g. finding funding, staffing, training, budgets, etc. Discuss how the 6 courses help to develop the skill set needed to deal with these problems

Potential Discussion Questions

• Ask students if any of them have taken one of the other courses.

Speaker Notes

There are 6 week-long courses offered by DCED. They are:

- *Introduction to Utility Management*
- *Organizational Management*
- *Financial Management*
- *Personnel Management*
- *Operational Management I and II, and*
- *Introduction to Utility Planning*

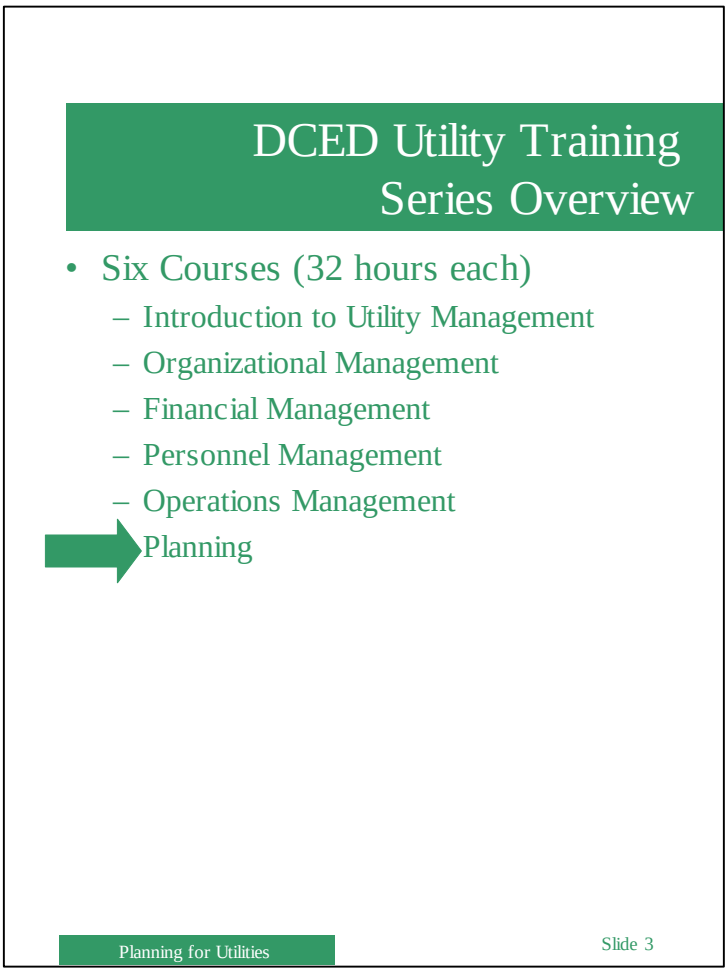
Each course is 32 hours long (4.5 days).

DCED Utility Training Series Overview

There are 6 week-long courses offered by DCED. They are:

1. *Introduction to Utility Management*
2. *Organizational Management*
3. *Financial Management*
4. *Personnel Management*
5. *Operational Management I and II*
6. *Introduction to Utility Planning*

Each course is 32 hours long (4.5 days). This course is but one of those 6 weeklong courses –*Introduction to Utility Planning.*



Lesson 1 Introduction

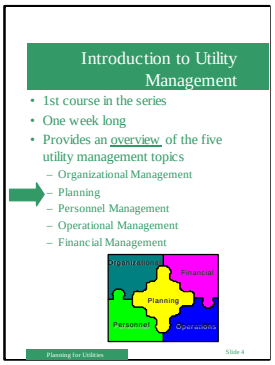
Instructor Tips

• This is a slide for you to generally discuss the contents of the Introduction to Utility Management Course.

• You might want to display a copy of the Introduction to Utility Management training manual.

References

• Introduction to Utility Management Student Manual, 3rd Edition



Ideas for Real Life Examples

• Provide an example of how the skills learned in this course will help the students do their everyday jobs.

Potential Discussion Questions

• Ask students if any of them have taken the Introduction to Utility Management Course?

Speaker Notes

The **Introduction to Utility Management** is the first one of the 6 course series.

It is approximately four days long (32 hours).

Provides an overview of the five utility management topics

- *Organizational Management*
- *Personnel Management*
- *Operational Management*
- *Financial Management*
- *Planning*

The goal of the 32 hour Introductory course is to provide utility managers of small water and sewer facilities a basic understanding of the principles and practices involved in managing their facilities. Small facilities means communities of 100-1500 in size. By taking the introductory course, students should be well-prepared to go on to the more advanced courses on each specific topic.

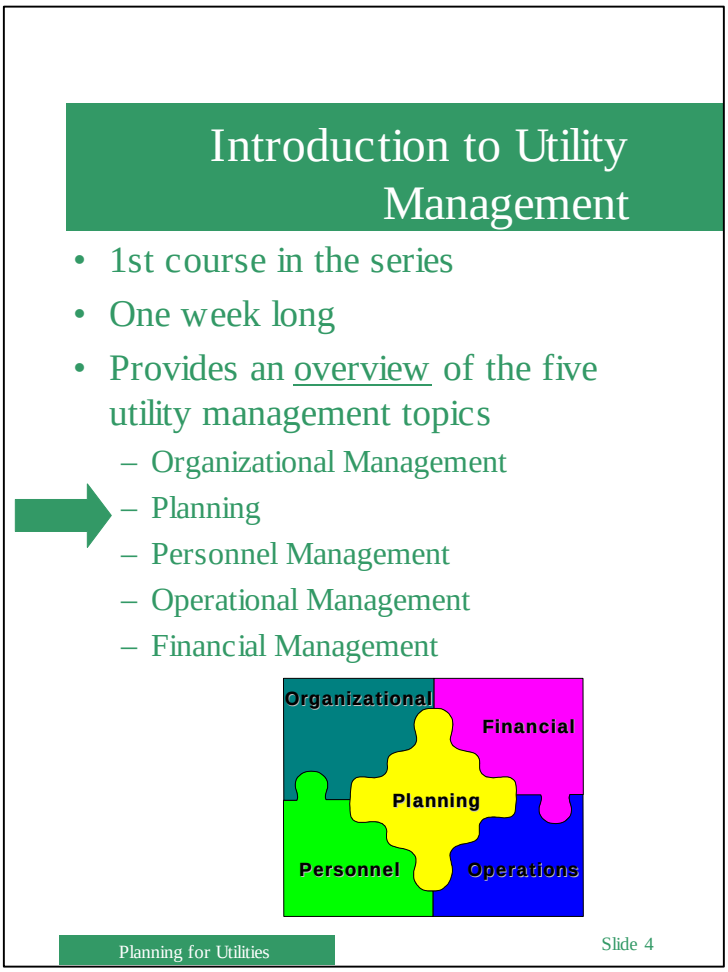
Introduction to Utility Management

The **Introduction to Utility Management** is the first one of the 6 course series.

The course provides an<u>overview</u> of the five utility management topics:

- *Organizational Management*
- *Personnel Management*
- *Operational Management*
- *Financial Management*
- *Planning*

The goal of the 32 hour Introductory course is to provide utility managers of small water and sewer facilities a basic understanding of the principles and practices involved in managing their facilities. Small facilities means communities of 100-1500 in size. By taking the introductory course, students should be well-prepared to go on to the more advanced courses on each specific topic.



Lesson 1 Introduction

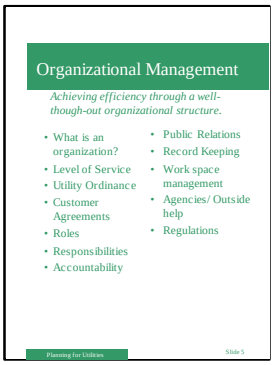
Instructor Tips

• This is a slide for you to generally discuss the contents of the Organizational Management Course.

• You might want to display a copy of the Introduction to Organizational Management training manual.

References

- DCED Organizational Management Student Manual,.



Ideas for Real Life Examples

• Provide an example of how the skills learned in this course will help the students do their everyday jobs.

Potential Discussion Questions

• If you've taken this course, please share the highlights of what you learned.

Speaker Notes

This course provides more detail on the following concepts of **Organizational Management**.

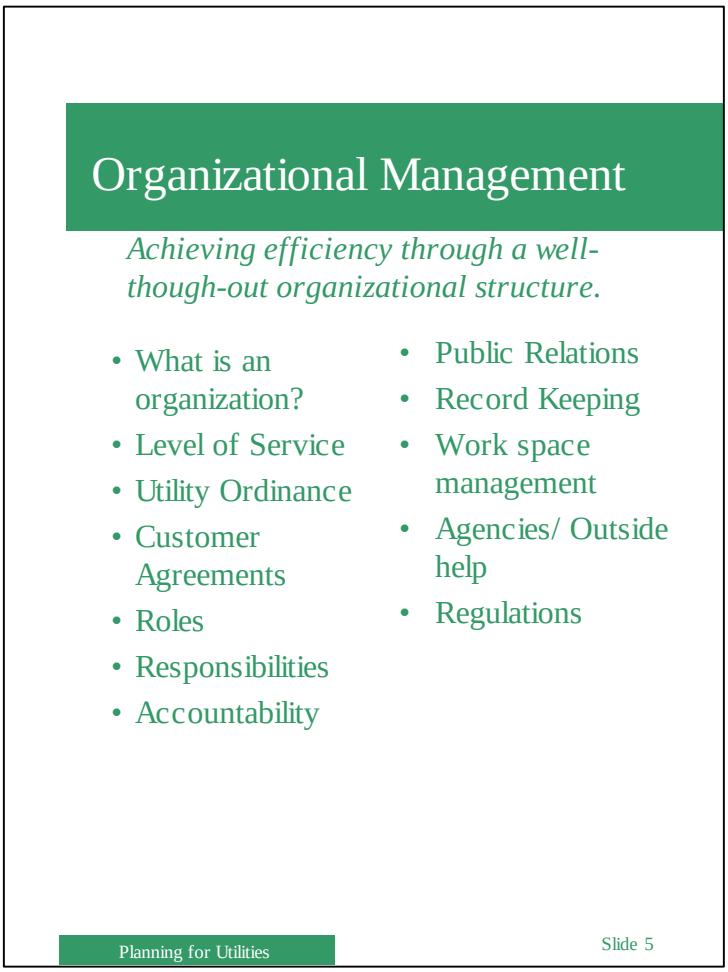
What is an organization
Level of Service
Utility Ordinance
Customer Agreements
Roles & Responsibilities
Accountability
Public Relations
Work Space Management
Agencies and outside help
Regulations

The course discusses various forms of local organizations that may own, govern, or manage and operate water and wastewater utilities in Alaska. The course addresses the governance of a utility, including local laws and legal documents. The course focuses on the organization of the entity that will manage and operate the utility including an overview of the responsibilities, authority, and accountability of personnel.

Organizational Management

This course is designed to provide more detail on the following concepts of **Organizational Management**.

- *What is an organization*
- *Accountability*
- *Level of Service*
- *Public Relations*
- *Utility Ordinance*
- *Work Space Management*
- *Customer Agreements*
- *Agencies and outside help*
- *Roles & Responsibilities*
- *Regulations*



The course discusses various forms of local organizations that may own, govern, or manage and operate water and wastewater utilities in Alaska. The course addresses the governance of a utility, including local laws and legal documents.

The course focuses on the organization of the entity that will manage and operate the utility including an overview of the responsibilities, authority, and accountability of personnel.

Lesson 1 Introduction

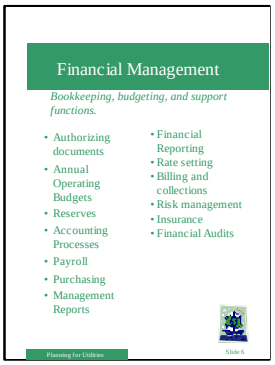
Instructor Tips

• This is a slide for you to generally discuss the contents of the Financial Management Course.

• You might want to display a copy of the Introduction to Financial Management training manual.

References

- DCED Financial Management Student Manual



Ideas for Real Life Examples

• Provide an example of how the skills learned in this course will help the students do their everyday jobs.

Potential Discussion Questions

• If you've taken this course, please share the highlights of what you learned

Speaker Notes

This course describes the two main elements to **Financial Management.**

For a utility, Financial Management has two basic systems: a financial information system and a management information system.

Financial Information This section of the course includes information on: procedures and record-keeping requirements, accounting processes, payroll and purchasing, billing and collections, and budgeting.

Management Information This section of the course includes information on: procedures and reports that allow the manager to determine how well the utility is meeting the needs of the customers and goals set out in the annual operations plan. Includes information for establishing utilities rates. Contains reports that ensure funds and assets are used in accordance with proper procedures. Includes information on risk management, insurance, preparing management reports and authorizing documents, and financial audits.

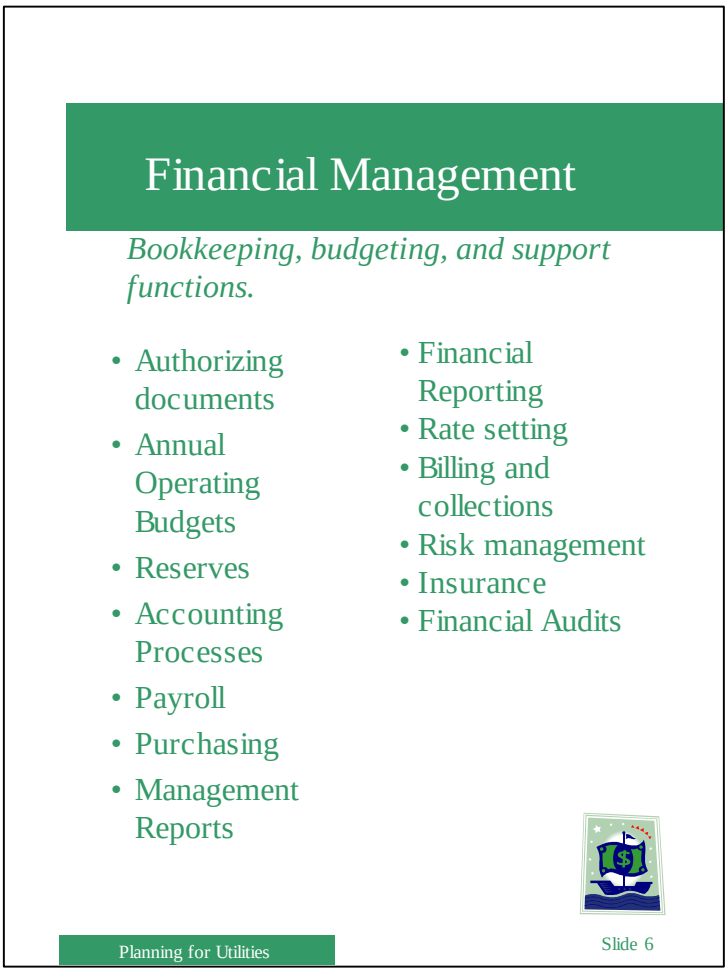
Financial Management

This course describes the two main elements to **Financial Management.**

For a utility, Financial Management has two basic systems: a financial information system and a management information system.

Financial Information. This section of the course includes information on: procedures and record-keeping requirements, accounting processes, payroll and purchasing, billing and collections, and budgeting.

Management Information. This section of the course includes information on: procedures and reports that allow the manager to determine how well the utility is meeting the needs of the customers and goals set out in the annual operations plan. During this course you will gain information on establishing utility rates. The section also presents reporting procedures to ensure funds and assets are used properly. In addition, this section offers information on risk management, insurance, preparing management reports and authorizing documents, and financial audits.



Lesson 1 Introduction

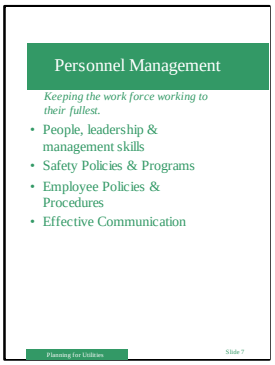
Instructor Tips

• This is a slide for you to generally discuss the contents of the Personnel Management Course.

• You might want to display a copy of the Introduction to Personnel Management training manual.

References

• DCED Personnel Management Student Manual



Ideas for Real Life Examples

• Provide an example of how the skills learned in this course will help the students do their everyday jobs.

Potential Discussion Questions

• If you've taken this course, please share the highlights of what you learned

Speaker Notes

This course describes the tools a utility manager needs to keep the work force working to their fullest. Topics are focused on **Personnel Management** and include:

•*People, leadership, and management skills*

•*Safety policies and programs*

•*Employee policies and procedures*

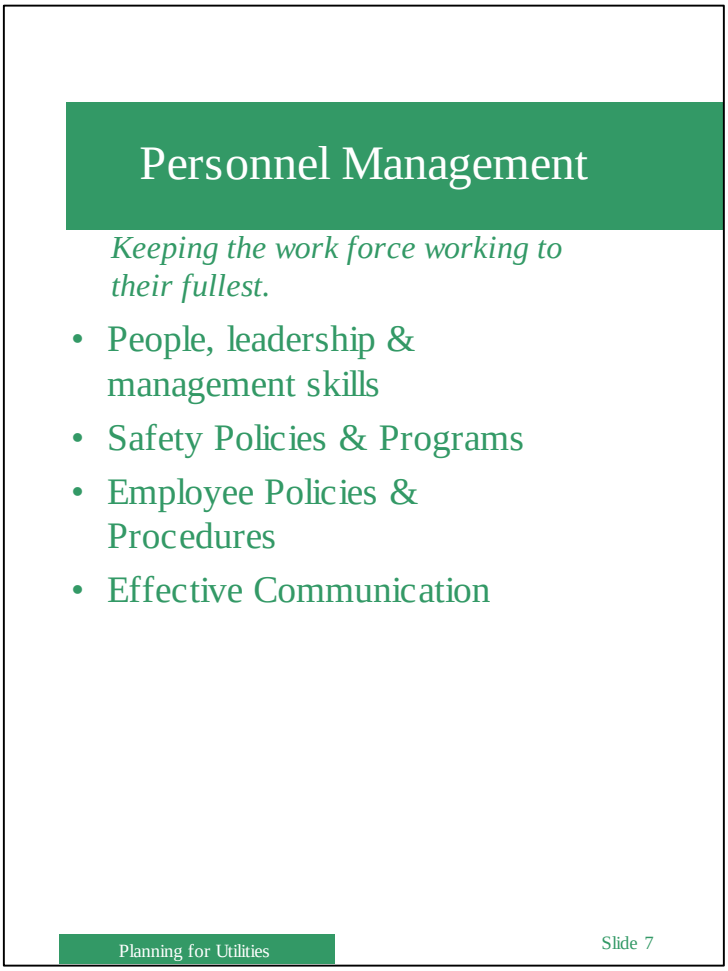
•*Effective communication*

Personnel Management

This course describes the tools a utility manager needs to keep the work force working to its fullest.

Topics are focused on**Personnel Management** and include:

- *People, leadership, and management skills*
- *Safety policies and programs*
- *Employee policies and procedures*
- *Effective communication*



Lesson 1 Introduction

Instructor Tips

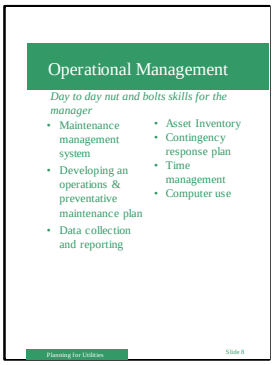
• This is a slide for you to generally discuss the contents of the Operational Management Course.

• You might want to display a copy of the Introduction to Operational Management training manual.

• At the conclusion of this slide, go over any questions students have regarding the information presented up to this point.

References

- DCED Operational Management Student Manual



Ideas for Real Life Examples

• Provide an example of how the skills learned in this course will help the students do their everyday jobs.

Potential Discussion Questions

• If you've taken this course, please share the highlights of what you learned.

Speaker Notes

This course addresses the day-to-day, nuts and bolts skills necessary to run a utility or **Operational Management**. Topics include:

•*Maintenance and management systems*

•*Developing an operations and preventive maintenance plan*

•*Data collection and reporting*

•*Asset inventory*

•*Contingency response plan*

•*Time management*

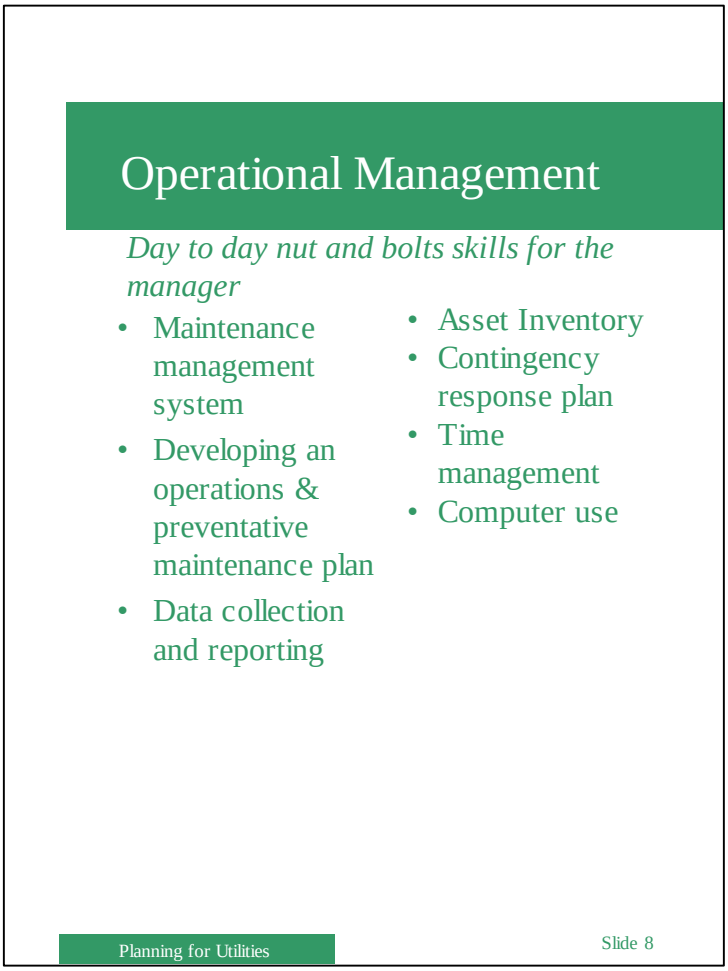
•*Computer use*

Operational Management

This course addresses the day-to-day, nuts and bolts skills necessary to run a utility or **Operational Management**.

Topics include:

- *Maintenance and management systems*
- *Developing an operations and preventive maintenance plan*
- *Data collection and reporting*
- *Asset inventory*
- *Contingency response plan*
- *Time management*
- *Computer use*



Lesson 1 Introduction

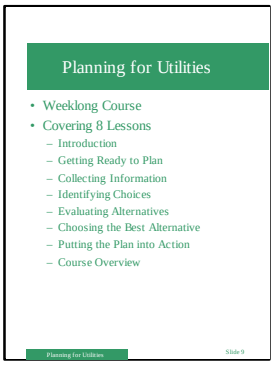
Instructor Tips

• Quickly review the 7 remaining topics that will be presented as part of this course.

• Take general questions before proceeding.

References

- SPG Page 1
- SPG Technical Appendix A, Meeting Overheads



Ideas for Real Life Examples

• Provide examples of plans you have been involved with.

•Provide an example of a successful plan in a community you are aware of? What process was used? What problem was solved?

Potential Discussion Questions

• How many students have taken the 1-day planning for utilities workshop offered by DCED?

• What did they learn at the workshop?

• What additional information regarding utility planning did they want to learn?

Speaker Notes

This week-long course on **Planning for Utilities** covers 8 topics, including today's introduction. They are:

Getting Ready to Plan: This section will present what is planning and why plan, keys to success and building community capacity. It also includes a presentation of public involvement techniques.

Collecting Information: This section will present how to identify problems and set community goals and objectives for addressing the problems. Techniques on how to do this will be discussed. This section also tips mapping the information and forecasting.

Identifying Choices: This section teaches the student how to develop water and sewer alternatives.

Evaluating Choices: This section teaches the student how to evaluate the range of alternatives identified.

Choosing the Best Alternatives: This section teaches the student how to select and refine the preferred alternative, developing project plans, capital improvements programming, and draft and final master planning documents.

Putting the Plan Into Action: This section presents information on funding, permitting, force accounting and contracting, and operations and maintenance.

Course Overview: This last section includes a community self-evaluation, class review, and final test.

Planning for Utilities

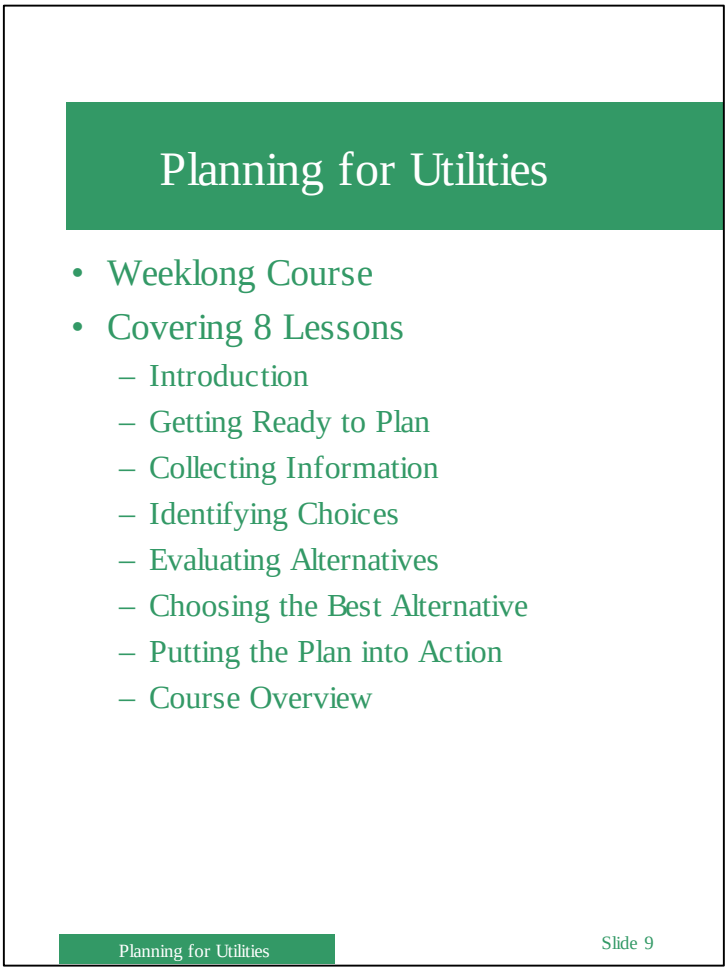
This week-long course on **Planning for Utilities** covers 8 topics, including today's introduction.

The topics are:

Getting Ready to Plan. This section will explain what planning is and why we plan, keys to success and building community capacity. It also includes a presentation of public involvement techniques.

Collecting Information. This section will present how to identify problems and set community goals and objectives for addressing the problems. Techniques on how to do this will be discussed. This section also covers mapping information and forecasting.

Identifying Choices. This section teaches the student how to develop water and sewer alternatives.



Evaluating Choices. This section teaches the student how to evaluate the range of alternatives identified.

Choosing the Best Alternatives. This section teaches the student how to select and refine the preferred alternative, developing project plans, capital improvements programming, and draft and final master planning documents.

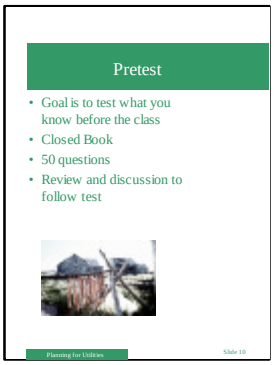
Putting the Plan Into Action. This section presents information on funding, permitting, force accounting and contracting, and operations and maintenance.

Course Overview. This last section includes a community self-evaluation, class review, and final test.

Lesson 1 Introduction

Instructor Tips

- Discuss purpose of the test
- Answer questions on test procedures
- Pass out test and pencils
- Set timer for 30 minutes



Exercise 2
Pre-Test

Speaker Notes

- Tell the students that the **Pre-test** is a tool for assessing their understanding of utilities management planning. It is designed to cover a range of planning concepts.
- Many students will be unfamiliar with planning when they take the pretest and will thus score poorly on it.
- The goal is to test what they know before beginning presenting the course information. The test is not graded but rather scored. It is not a pass/fail test.
- The test is closed book and contains 50 questions.
- Students have 45 minutes to complete the test. Once everyone has completed the test, take another 15 minutes to review and discuss the answers and any questions.

Conduct Exercise 2 Pre-Test

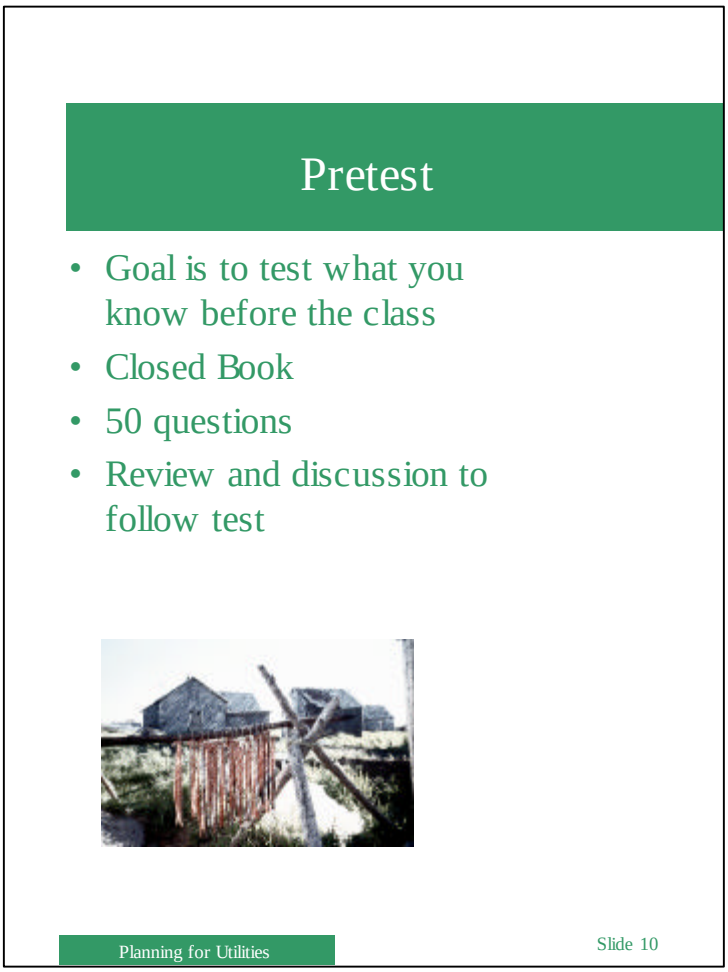
Pre-test

The **Pre-test** is a tool for assessing your understanding of utilities management planning. It is designed to cover a range of planning concepts.

Many students will be unfamiliar with planning when they take the pretest and may score poorly on it. However, the goal is to test what you know before presenting the course information. Many of the questions you miss on the pre-test will likely be answered as you proceed with the course, complete the worksheets and participate in the exercises. By the end of the course, your score on the final test will likely be much better.

The test is closed book and contains 50 questions.

Once everyone has completed the test, the instructor will review and discuss the answers with the class and any questions.



Lesson 2 Getting Ready to Plan

Goal of this Lesson

To help participants understand what planning is, why it is important, and what it will take to have a successful planning process before they begin to plan.

Educational Objectives

After completing this lesson participants should be able to -

- Define what planning is and why it is important.
- Identify the keys that will make their planning efforts a success.
- Define stakeholders.
- Know why to form a work group.
- Understand what community capacity means and how it applies to planning.

Schedule

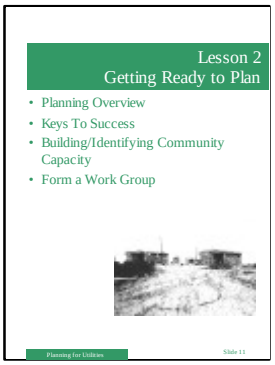
Lesson: 4.5 - 5.5 hours

Length:

- Planning Overview 1 hour
- Keys to Success 1 hour
- Public Involvement 1 hour
- Lesson Worksheet .5 hour
- Exercises 3-6 allow 1.5-2 hours

Equipment/Supplies:

- flip chart/easel, pads, markers
- overhead projector/slide projector
- microphone



Overview Slide

Speaker Notes

Begin by telling students that this slide and the next slide provide a **brief overview** of what you are going to cover in the lesson. More detailed slides follow. Before reviewing the topics in the section:

- Review the goals and objectives of the lesson called **Getting Ready to Plan** with students.
- Describe what it is the learning objectives are.
- Review the most pertinent sections of the Sanitation Planning Guide with students.

Topics to be covered include:

- *Planning Overview* - "We will provide an overview of what planning is and why it is important.
- *Keys To Success* - "We will examine what it takes to have a successful planning process. That is, those elements that need to be in place before we start the planning process."
- *Form a work group* - "We will explore the use of a work group as means of creating a successful planning process."
- *Community Capacity* - "We will examine the importance of the concept that DCED calls 'community capacity'."

Lesson 2 Getting Ready to Plan

Lesson 2: 4.5 – 5.5 hours

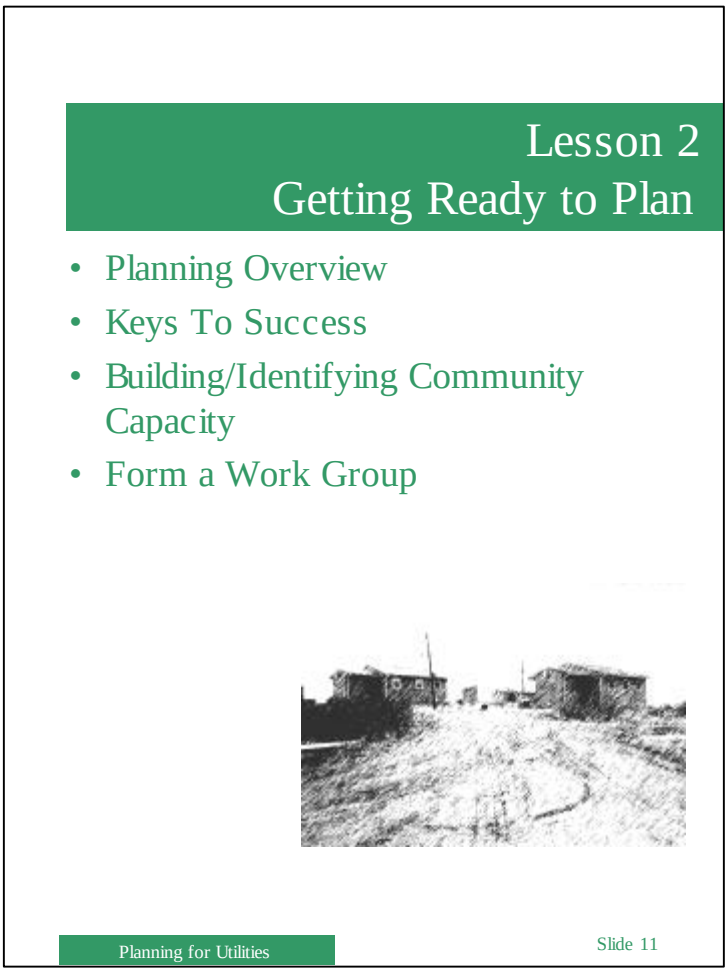
Length:

- Planning Overview 1 hour
- Keys to Success 1 hour
- Public Involvement 1 hour
- Lesson Worksheet .5 hour
- Exercises approximately 1.5 - 2 hours

Learning Objectives

The goal of this lesson is to describe what planning is, why it is important, and what it will take to have a successful planning process before you begin to plan.

After completing this lesson you should be able to:



- Define what planning is and why it is important.
- Identify the keys that will make your planning efforts a success.
- Define stakeholders.
- Know why to form a work group.
- Understand what community capacity means and how it applies to planning.

The next two sections provide a **brief overview** of what will be covered in the lesson. More detailed slides follow.

Topics to be covered include:

- *Planning Overview* – an overview of what planning is and why it is important.
- *Keys to Success* – what it takes to have a successful planning process. That is, those elements that need to be in place before we start the planning process.
- *Form a work group* – using a work group as a means of creating a successful planning process."
- *Community Capacity* – the importance of the concept that DCED calls ' community capacity' ."

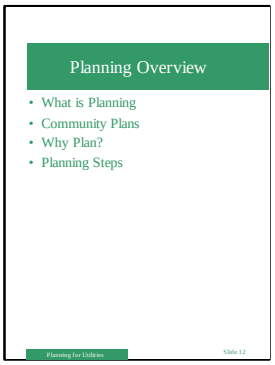
Instructor Tips

•This is an overview slide to let students know what you are going to talk about in the planning overview.

•Don't spend too much time on this slide as additional slides follow with more detail.

References

- SPG Pages 1 & 2



Overview Slide

Ideas for Real Life Examples

•List the most current sanitation master plans from around Alaska - preferably exhibit one from the region in which you are doing the training.

Potential Discussion Questions

• Ask students to think of planning projects they know about.

Speaker Notes

Provide a brief overview of the three topics that are going to be presented in this section:

•*What is planning*? Planning for sewer and water systems is called "sanitation planning."

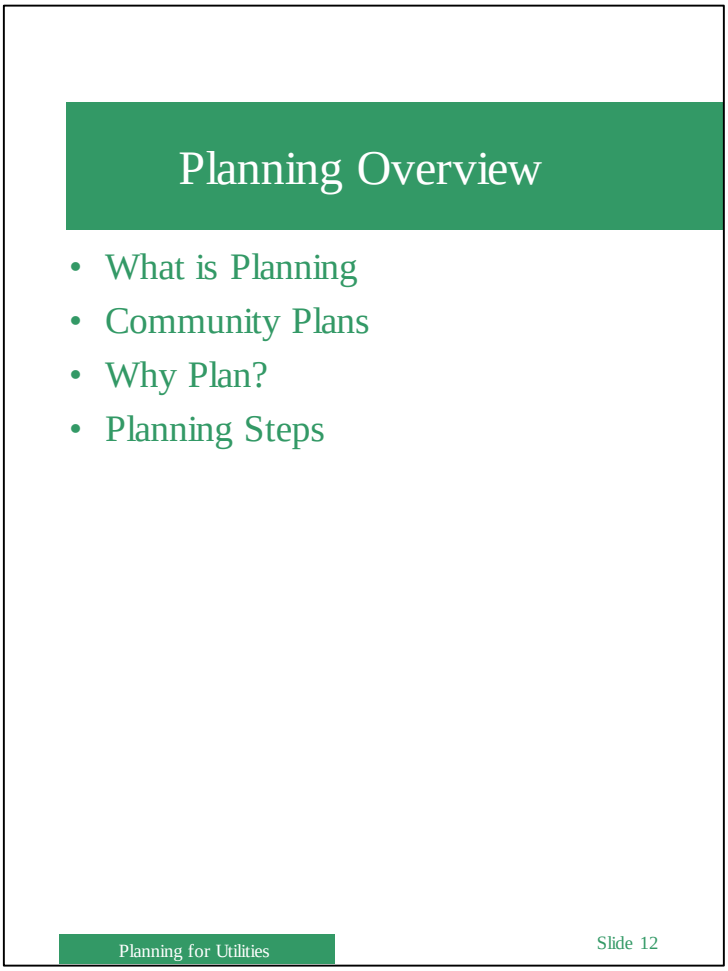
•*Why plan*? Review reasons for planning for a utility.

•*What are the steps in the planning process*? Details on the steps.

Planning Overview

Three topics will be presented in this section:

- *What is planning*? Planning for sewer and water systems is called "sanitation planning."
- *Why plan*? Reasons for planning for a utility.
- *What are the steps in the planning process*? Details on the steps.



Lesson 2 Getting Ready to Plan

Instructor Tips

•Use this slide to define what planing is.

•The message should be that planning has value and that we all engage in planning as part of our daily lives.

•Students should be able to define what planning is.

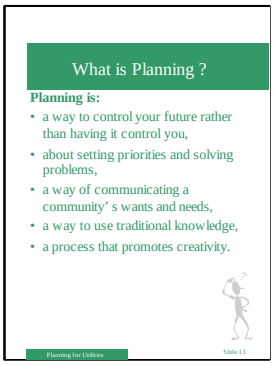
•Remember that text highlighted in **green** are potential test questions.

References

- SPG Page 1 & 2
- SPG Technical Appendix A Training Meeting Overheads

Materials

- pre-tests, pencils, timer



Ideas for Real Life Examples

• Provide an example of a planning effort you are aware of.

•Think of a planning effort that highlights one of the bulleted items.

Potential Discussion Questions

• Can you think of some things you plan for? (Vacation? New fire hall? Retirement? Moving? Next year's budget?).

•What does planning mean to you?

Speaker Notes

In this section, discuss the characteristics of planning.

What is Planning? Planning is a **process** that brings people together to help make well-considered decisions about the **future**. In this sense, most everyone does some planning.

Building a good water and sewer system is part of building a good community and it takes the whole community to do that, working as partners with agencies and consultants.

•***about setting priorities and solving problems*** - "Planning allows us to identify our problems, prioritize, and identify solutions that will work for us."

• ***a way to control your future rather than having it control you*** - "Without a plan events tend happen to a community and the community is always on the defensive; responding. A plan allows the community to be out front - dictating the events."

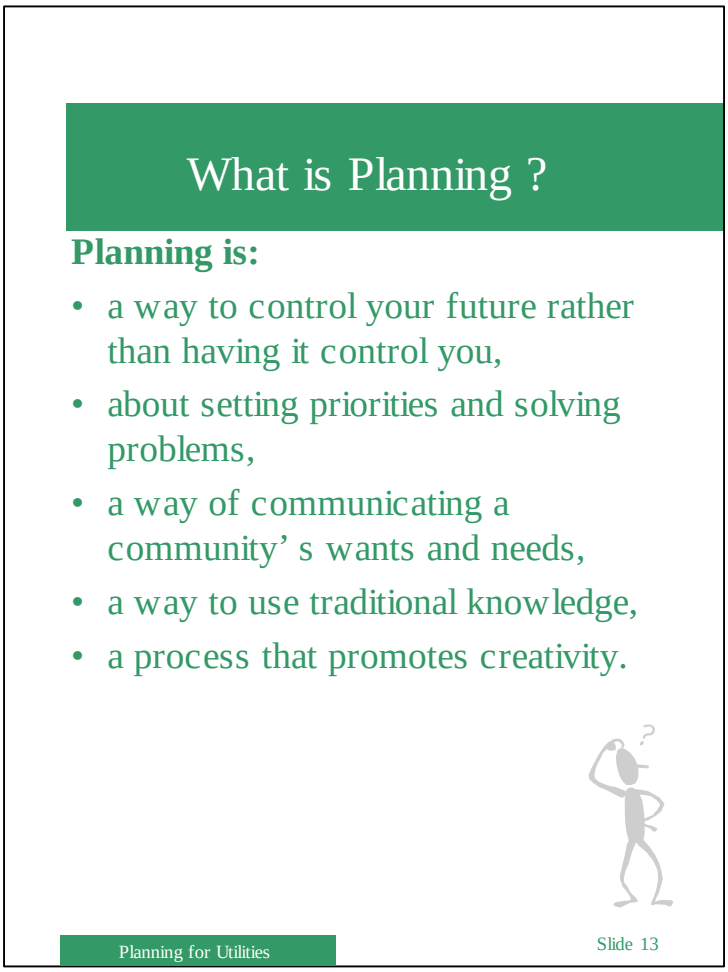
• ***a way of communicating a community's wants and needs*** - "Agencies, developers, and others will look to the plan as the community's common voice, expressing the wants and desires of its residents. Without a plan outsiders can only guess at what you want, or they will rely on only one or two voices (perhaps the mayor or city manager)."

• ***a way to use traditional knowledge*** - "Planning can allow you to capture and document the knowledge of elders and residents to make better decisions and express that knowledge to agencies, engineers, and future generations."

• ***a process that promotes creativity*** - "Planning relies on being inclusive. This means lots of people will help put input into the plan. The more people involved, the more creative the ideas will be."

What is Planning?

There are several key characteristics of planning. Anecdotes (in quotation marks) from community residents and state and federal agencies have been included.



Planning is a process that brings people together to help make well-considered decisions about the future. In this sense, most everyone does some planning. Building a good water and sewer system is part of building a good community and it takes the whole community to do that, working as partners with agencies and consultants.

Planning is about setting priorities and solving problems. "Planning allows us to identify our problems, prioritize, and identify solutions that will work for us."

Planning is a way to control your future rather than having it control you. "Without a plan events tend happen to a community and the community is always on the defensive; responding. A plan allows the community to be out front - dictating the events."

Planning is a way of communicating a community' s wants and needs. "Agencies, developers, and others will look to the plan as the community' s common voice, expressing the wants and desires of its residents. Without a plan, nonresidents can only guess at what you want, or they will rely on only one or two voices (perhaps the mayor or city manager)."

Planning is a way to use traditional knowledge. "Planning can allow you to capture and document the knowledge of elders and residents to make better decisions and express that knowledge to agencies, engineers, and future generations."

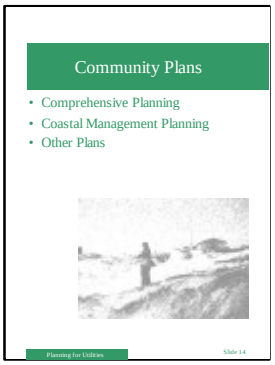
Planning is a process that promotes creativity. "Planning relies on being inclusive. This means lots of people will help put input into the plan. The more people involved, the more creative the ideas will be."

Instructor Tips

• Use this slide to briefly discuss the different types of community planning efforts.

• You may want to have examples of a comprehensive plan, coastal management plan, CIP, and/or transportation plan to show the class.

• Discuss the relationship between comprehensive planning (or other types of plans) and sanitation planning.



Ideas for Real Life Examples

• Provide examples of plans you have been involved with.

• Provide an example of a successful plan in a community you are aware of? What process was used? What problem was solved?

Potential Discussion Questions

• How many communities have a comprehensive plan, coastal management plan, CIP or other type of plan?

•Do they use them? When and how?

Speaker Notes

This section presents information on **Local Planning**. Local planning involves the development of a variety of plans - not just sanitation utility master plans.

Local planning includes comprehensive plans, coastal management plans, and other plans such as capital improvement plans, transportation plans, and park plans, to name a few.

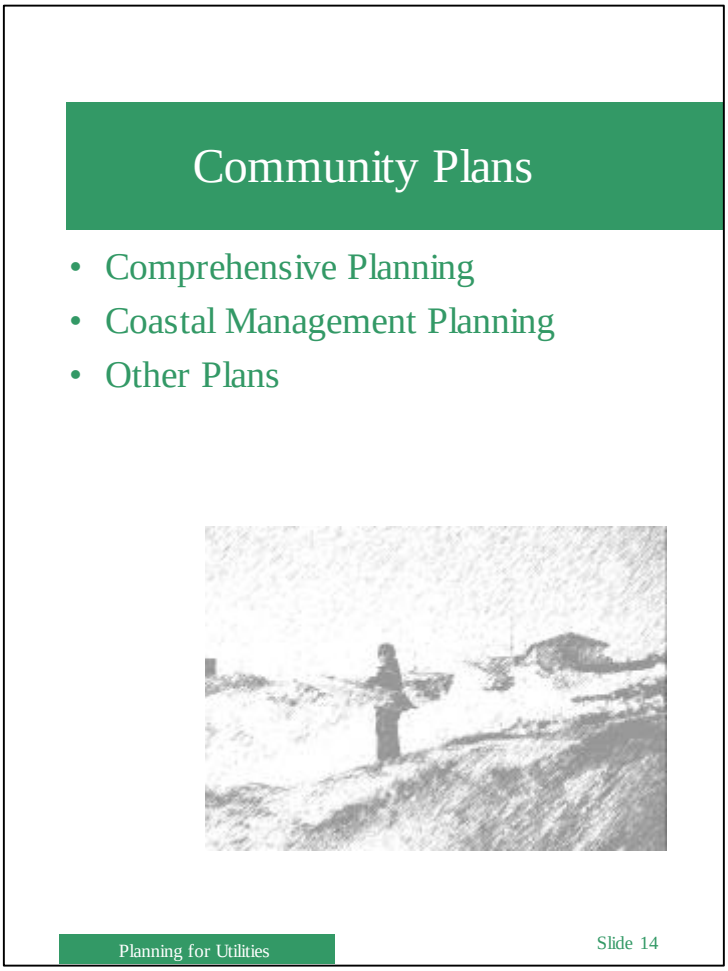
•*Comprehensive Plans.* Generally speaking, comprehensive plans include a statement of the community's vision, its goals and objectives for development, and policies to guide the physical, social, and economic development of the community. Comprehensive plans typically are prepared in advance of utility plans.

•*Coastal Management Plans***.** Certain communities and regions within the State's coastal area have developed or are in the process of developing coastal management plans and programs. Coastal management plans, like comprehensive plans, contain policy statements, goals, standards, background studies and maps to guide future development.

•***Transportation plans*** address the relationship of land use and the movement of people and freight into, out of, and within the community. Transportation plans also typically include land use policies, mapping and a capital improvement element.

•*Other Plans***.** There are other plans that support and supplement the comprehensive planning and coastal management planning efforts of local communities. For instance, a ***capital improvement plan*** is a tool for planning and scheduling capital improvement projects. It includes a list of projects by priority, information about each project, a schedule for seeking funding, and a construction schedule.

Community Plans



This section presents information on **Local Planning**. Local planning involves the development of a variety of plans - not just sanitation master plans. Local planning includes comprehensive plans, coastal management plans, and other plans such as capital improvement plans, transportation plans, and park plans, to name a few.

Comprehensive Plans. Generally speaking, comprehensive plans include a statement of the community' s vision, its goals and objectives for development, and policies to guide the physical, social, and economic development of the community. Comprehensive plans typically are prepared in advance of utility plans.

Coastal Management Plans. Certain communities and regions within the State' s coastal area have developed or are in the process of developing coastal management plans and programs. Coastal management plans, like comprehensive plans, contain policy statements, goals, standards, background studies and maps to guide future development.

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Other Plans. There are other plans that support and supplement the comprehensive planning and coastal management planning efforts of local communities. For instance, a*capital improvement plan* is a tool for planning and scheduling capital improvement projects. It includes a list of projects by priority, information about each project, a schedule for seeking funding, and a construction schedule.

Lesson 2 Getting Ready to Plan

Instructor Tips

• Use this slide help illuminate the benefits of planning.

• Students should be able to identify some reasons why planning is a good idea.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 1 & 2
- SPG Technical Appendix A Training Meeting Overheads
- SPG Technical Appendix I Bibliography

Ideas for Real Life Examples

• Provide an example where a planning process has resulted in some of the bullet points (below) occurring.

• Interject an example of how planning has saved money in the long run.

Potential Discussion Questions

• Can you think of any other reason why we should plan?

• What can go wrong when you don't plan?

Speaker Notes

Briefly cover the reason why planning is a good idea. Focus on benefits. Remind students that the list is not exhaustive.

However, there are at least six reasons to plan.

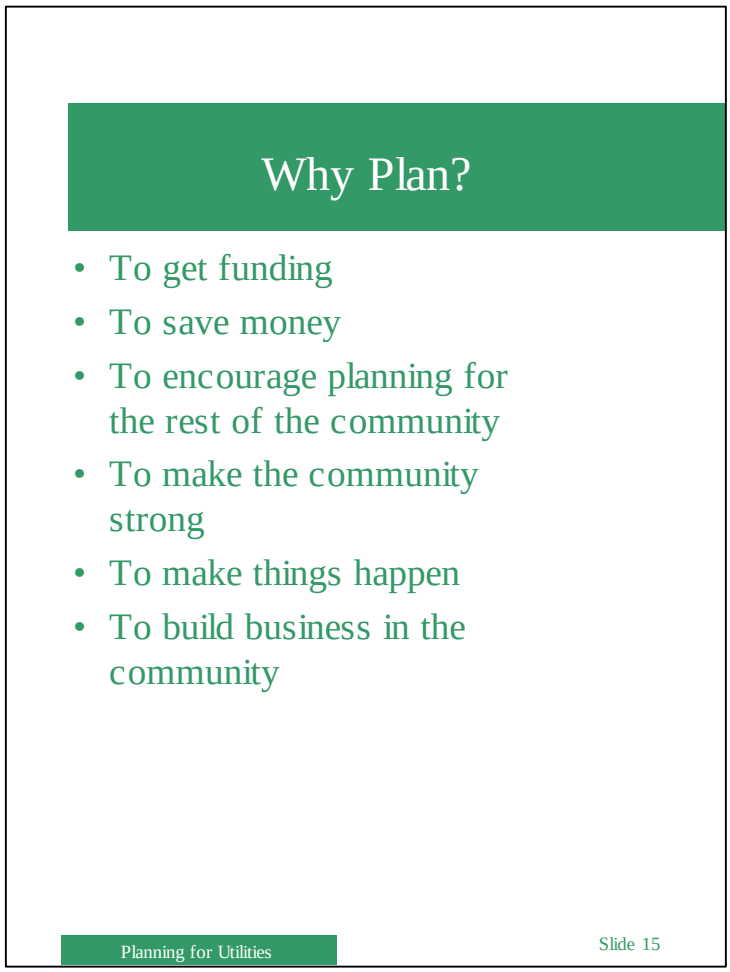
Invite students to add to the list if they can think of additional reasons why planning is a good idea.

Why plan?

1. ***To save money:*** If you plan wisely for sewer and water projects, your community could avoid making expensive mistakes.
2. ***To encourage planning for the rest of the community:*** Water and sewer planning allows everyone to think of the future. It allows the community to think about where houses, schools, businesses should be.
3. ***To make the community strong:*** To improve community health (for our kids!). A strong and healthy community is a unified community.
4. ***To get funding:*** Agencies that provide money for projects like to see that a community has thought it through - the plan shows that your community is organized. Stress that granting agencies are more and more giving higher scores for projects that are part of a plan.
5. ***To make things happen:*** Solve your old problems as you set new goals. Meet the future head on.
6. ***To build business in the community:*** A dependable water and sewer system is attractive to business.

Why Plan?

There are at least six reasons to plan. However, the following list of reasons is not exhaustive. As you read this list, think of your own reasons to plan.



- *To save money:* If you plan wisely for sewer and water projects, your community could avoid making expensive mistakes.

- *To encourage planning for the rest of the community:* Water and sewer planning allows everyone to think of the future. It allows the community to think about where houses, schools, businesses should be.

- *To make the community strong:* To improve community health (for our kids!). A strong and healthy community is a unified community.

- *To get funding:* Agencies that provide money for projects like to see that a community has thought it through - the plan shows that your community is organized. Granting agencies are more and more giving higher scores for projects that are part of a plan.

- *To make things happen:* Solve your old problems as you set new goals. Meet the future head on.

- *To build business in the community:* A dependable water and sewer system is attractive to business.

Lesson 2 Getting Ready to Plan

Instructor Tips

•Reiterate that the lessons generally follow the five main steps in the planning process.
• Go over each of the five steps that the sanitation guide recommends for conducting sanitation planning.
• Compare the sanitation planning process, step-by-step, to a real-life example like hunting trip.
• Remember that text highlighted in **green** represents potential test questions.

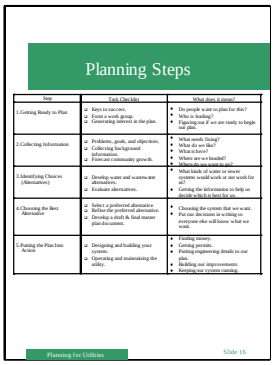
Ideas for Real Life Examples

• Use examples from planning for a vacation or hunting trip to stress that planning (and the recommended steps) are not magic or difficult..

• Hold up a sample plan. Illustrate that the table of contents of a good plan have chapters that also mimic the steps. The steps essentially flesh out a plan.

References

- SPG Page 3
- SPG Technical Appendix B
- Hunting Trip Poster



Exercise 3

Potential Discussion Questions

• What are the steps that you take when you plan a vacation or hunting trip?

• How are these steps similar to planning for sanitation improvements?

Speaker Notes

In this section, provide the students with the following information on the **planning steps**:

• *Step 1 - Getting Ready to Plan* or Are people ready to plan, to begin the process, commit to doing the work?
• *Step 2 - Collecting Information* or finding out the facts about your community including problems, the vision for the future, and the trends for growth.
• *Step 3 - Identifying Choices* (Alternatives) or coming up with a range of options and evaluating them - there is more than one way to solve the problems identified in Step 2.
• *Step 4 -Choosing the Best Alternative* or choosing the system you want, refining it, and putting it into writing (draft and final master plan).
• *Step 5 - Putting the Plan into Action* or designing and building the system; operating and maintaining the utility. Includes finding the money, permits, engineering details, construction and O & M.

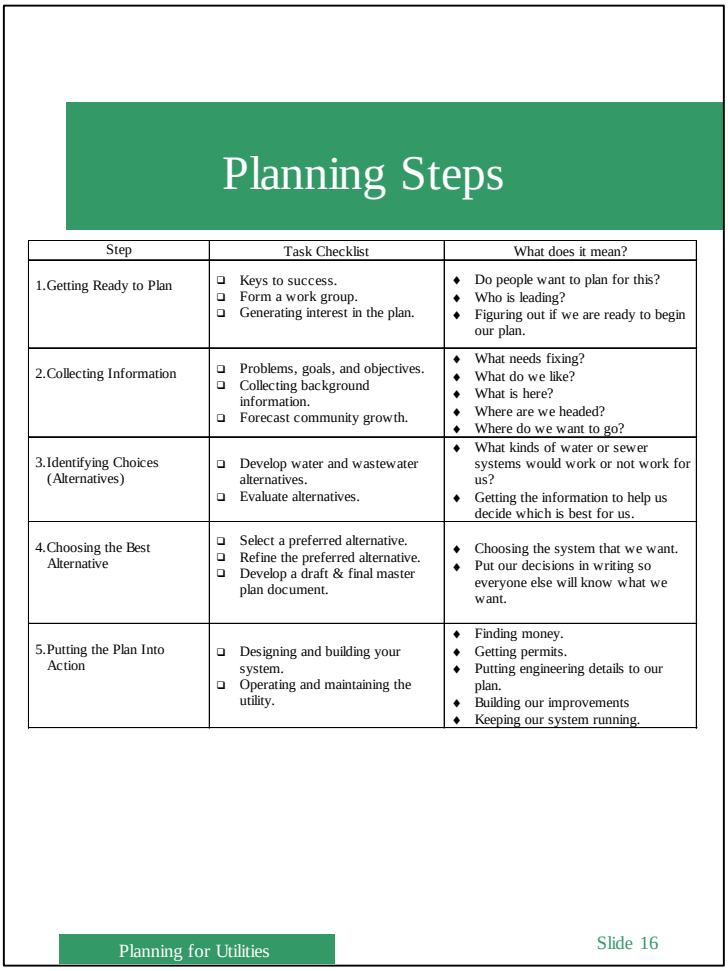
Using a real-life example, compare different planning processes. This can be done as an exercise using flip charts.

Conduct Exercise 3 Planning Process

Purpose of the exercise is to introduce the steps in the planning process and to "de-mystify" the planning process..

Planning Steps

This section presents information on the planning steps. There are basically 5 steps to the planning process. While the names or titles might differ, the steps are the same whether you are preparing a sanitation master plan, a comprehensive plan, financial plan, capital improvements plan or any other type of plan.



- *Step 1 - Getting Ready to Plan.* Are people ready to plan, to begin the process, committed to doing the work?

- *Step 2 - Collecting Information* or finding out the facts about your community including problems, the vision for the future, and the trends for growth.

- *Step 3 - Identifying Choices* (Alternatives) or coming up with a range of options and evaluating them - there is more than one way to solve the problems identified in Step 2.

- *Step 4 -Choosing the Best Alternative* or choosing the system you want, refining it, and putting it into writing (draft and final master plan).

- *Step 5 - Putting the Plan into Action* or designing and building the system; operating and maintaining the utility. Includes finding the money, permits, engineering details, construction and O & M.

Instructor Tips

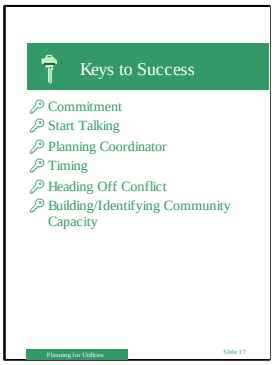
• Don't go into too much detail on the items on this slide as additional slides follow with more detail.

• Try using the round robin discussion technique. (If you do, point out that the round robin discussion technique is one type of facilitated discussion that can be used in public involvement).

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 4 & 5
- SPG Appendix A, Public Involvement, Pages A-1, A-2, A-13, and A-14



Overview Slide

Ideas for Real Life Examples

• Present examples of planning processes that were (un)successful specifically because of one of the bulleted items below.

Potential Discussion Questions

• What have been keys to successful plans or projects in your community?

Round Robin. Try using flip chart/easel, facilitate a round robin discussion of student's perspective on successful plans. Summarize key elements that students identify - i.e. if a student mentioned research, note it. If a student mentioned public involvement, note it.

Speaker Notes

This next section introduces the **6 keys to a successful planning process**.

Additional details on each key are included in subsequent slides. Use round robin to open up discussion on the keys to success.

Briefly the 6 keys to success are:

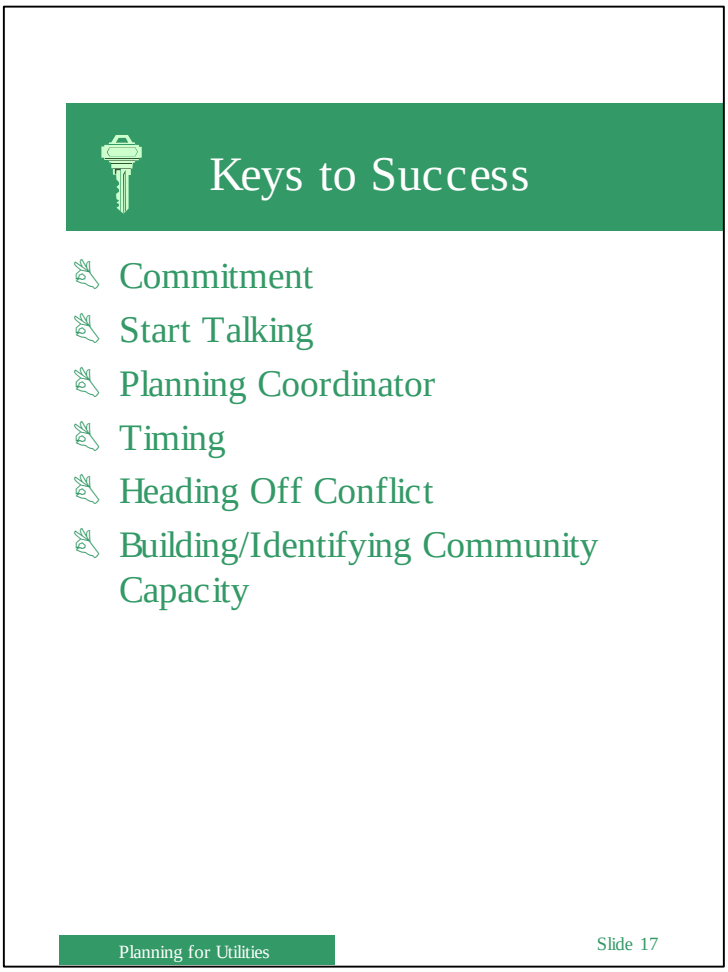
- *Commitment*
- *Start Talking*
- *Identify a Planning Coordinator*
- *Timing*
- *Heading off Conflict*
- *Form a Work Group*

Keys to Success

This section introduces the 6 keys to a successful planning process Additional details on each key are included in subsequent sections.

Briefly the 6 keys to success are:

- *Commitment*
- *Start Talking*
- *Identify a Planning Coordinator*
- *Timing*
- *Heading off Conflict*
- *Form a Work Group*



Lesson 2 Getting Ready to Plan

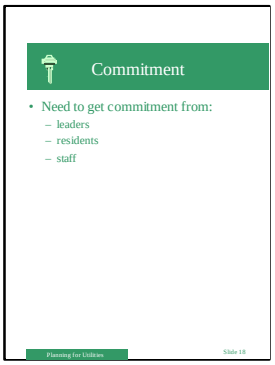
Instructor Tips

• Students should understand how commitment can lead to a successful plan and how without it the plan can stall out or even blow up.

•Point out to students that Appendix A of the SPG has information regarding conducting a visioning exercise and doing a survey. These techniques can help build commitment.

References

- SPG Page 4
- SPG Appendix A, Page A-7 and A-9
- Community Comprehensive Plan



Ideas for Real Life Examples

• Present the results of a visioning exercise that that you are familiar with. What was the process used? How did it help?

•Present an example from a community where leaders were not committed to the project or plan. What happened? What could have been done better?

Potential Discussion Questions

•What makes a community ready to plan?

•Can you think of any examples in your community where a lack of commitment sidelined a project?

•What are some ways to build commitment from leaders or residents?

• Who else might you need to get commitment from?

Speaker Notes

In this section provide detail on the importance of commitment.

Commitment Without support and backing, your plan may not go far. Get commitment from your community's leaders and residents early in the process. If the community really wants the sewer and water master plan and the leaders support the effort, the process is more likely to succeed.

• ***Leaders*** - "Without the support of leaders it will be difficult to get important decisions. The plan could simply stall if leaders are not supportive and willing to devote the time it will take to make the plan successful."

• ***Residents*** - "If you don't have commitment from residents, they won't show up at meetings. Ultimately, without the support of residents the solution you end up with may not be satisfactory to those who will have to use the system and will be impacted by the solution you come up with. "

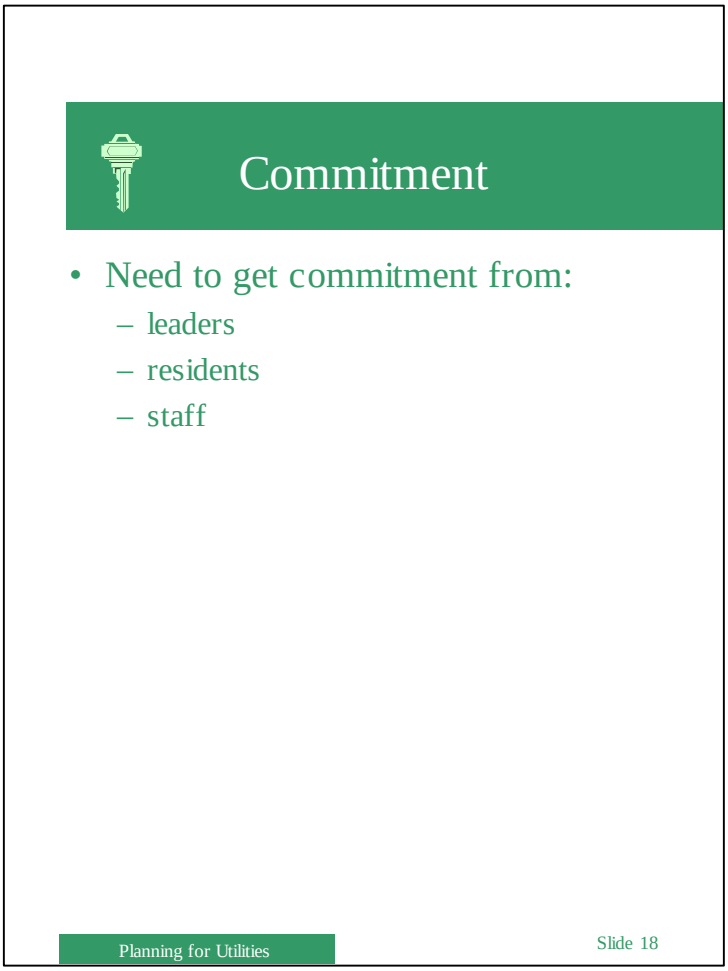
•*Staff* - The staff play an important role in the success of a plan. They are your technical support and potentially your contact with state and federal agencies and the consultant.

One key to determining if there is commitment to doing a plan is to conduct public involvement early - even before you apply for the state or federal grant and long before a consultant is selected to do the work.

Effective techniques for determining if there is commitment include: visioning exercises and surveys. Use one or both of these public involvement techniques to determine if the community wants to do the plan AND if leaders are ready to support it. Visioning prior to beginning the sanitation master planning process can help bring different groups together and can help foster commitment to the plan.

Commitment

This section provides detail on the importance of commitment.



Commitment. Without support and backing, your plan may not go far. Get commitment from your community' s leaders and residents early in the process. If the community really wants the sewer and water master plan and the leaders support the effort, the process is more likely to succeed.

Who should you get commitment from?

- *Leaders* - Without the support of leaders it will be difficult to get important decisions. The plan could simply stall if leaders are not supportive and willing to devote the time it will take to make the plan successful.
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Visioning prior to beginning the sanitation master planning process can help bring different groups together and can help foster commitment to the plan.

Lesson 2 Getting Ready to Plan

Instructor Tips

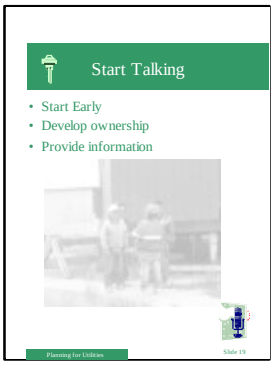
• Students need to understand the importance of early public involvement.

• Students need to understand where public involvement help can be found in the guidebook.

•Point out to students that Appendix A in the guidebook has techniques for getting people talking.

References

- SPG Page 4
- SPG Appendix A. Pages A-3 through A-12



Ideas for Real Life Examples

• Interject a story about a plan or project that went bad because people did not talk to each other, (rumors, misinformation, someone was insulted because they were not informed etc.).

Potential Discussion Questions

• What are some of the ways you can think of to get people talking?

• Who do you think you would need to get talking in your community?

Speaker Notes

This section introduces the concept of communication and how it relates to public involvement which will be presented later in this lesson.

Start Talking.

•*Start Early*. Explain why starting early is important. It's not too early to begin discussing sanitation planning in your community. It's never too late to start a public involvement process.

•*Develop ownership*. Involving people before the process even starts helps them feel a sense of ownership in the plan's outcomes. Let them know you care about what they think and will use their ideas in the plan.

•*Provide information* to residents about the planning process. Tell them the steps involved, why the plan is a good idea and how they can help. Use techniques appropriate to your community.

Some public involvement techniques that can be used to "start talking" include:

- informal small group discussion,
- intensive interviewing,
- and surveys.

A discussion of these and more public involvement techniques to get people talking will occur later in this section of the course.

Start Talking

Start Early. Starting early is important. It' s not too early to begin discussing sanitation planning in your community. It' s never too late to start a public involvement process.

Develop ownership. Involving people before the process even starts helps them feel a sense of ownership in the plan' s outcomes. Let them know you care about what they think and will use their ideas in the plan.

Provide information. Residents need to know about the planning process. Tell them the steps involved, why the plan is a good idea and how they can help. Use techniques appropriate to your community.

Some public involvement techniques that can be used to "start talking" include:

- informal small group discussion,
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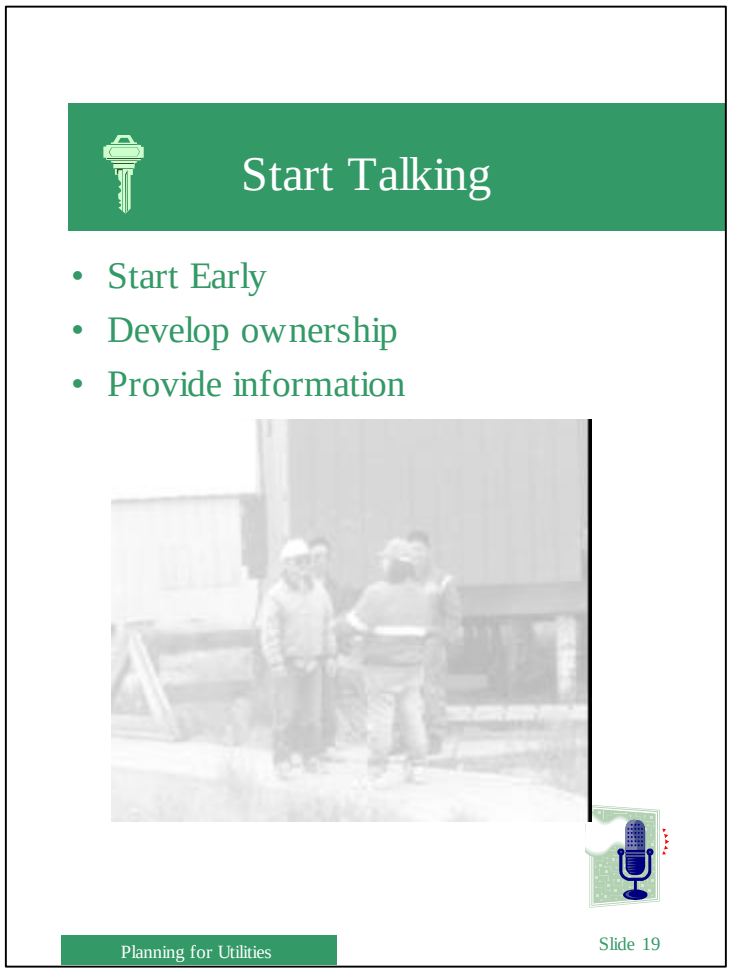


A discussion of these and more public involvement techniques to get people talking will occur later in this section of the course.

Lesson 2 Getting Ready to Plan

Instructor Tips

•Discuss the value of having a planning coordinator.

•Students should know what the role of a planning coordinator is and why it is important.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 4 & 5

Ideas for Real Life Examples

• Provide an example of a plan or project you have worked on that used (didn't use) a plan coordinator. Why was it useful? How did (didn't)having a planning coordinator help (hurt) the process?

• Have a list of communities that have identified and/or used a plan coordinator.

Potential Discussion Questions

• Why have a planning coordinator?

• What are some of the characteristics of a good planning coordinator?

•What do you think are some of the things the planning coordinator should take care of?

Speaker Notes

This section presents information on the **planning coordinator**, why have one, how they can help the planning process, and their role in the process.

•*Why have a planning coordinator?* Every project should have a point of contact. Before you begin the planning process, identify a plan coordinator - a resident, city staff person, or leader in the community to serve as the point of contact.

• *What can they do to make the process successful?* The plan coordinator becomes the driving force behind the scenes - making sure things that need to get done, get done. The coordinator is the one in contact with the consultant, the state and federal agencies, and the community.

• *What makes a good plan coordinator?* The coordinator must be someone that gets people motivated, is committed to the project, and is a good communicator. They can be a resident, a staff person, or a community leader.

• *What is the role of the plan coordinator?*

•***Resident, staff person, or leader*** - The plan coordinator does not need to hold any particular position within the community. Their personality is more important.

•***Driving force*** - The coordinator keeps the plan moving, makes sure things happen.

•***Spokesperson*** - Needs to be able answer questions about the plan to local residents, and potentially speak at planning commission, assembly, or council meetings.

•***Motivator*** - Coordinator gets people excited about the plan.

Planning Coordinator

This section presents information on the idea of hiring a planning coordinator. Why have one, how they can help the planning process, and what is their role in the process?

Why have a planning coordinator? Every project should have a point of contact. Before you begin the planning process, identify a planning coordinator - a resident, city staff person, or leader in the community to serve as the point of contact.

What can they do to make the process successful? The plan coordinator becomes the driving force behind the scenes - making sure things that need to get done, get done. The coordinator is the one in contact with the consultant, the state and federal agencies, and the community.

What makes a good planning coordinator? The coordinator must be someone that gets people motivated, is committed to the project, and is a good communicator. Do they feel comfortable working with a diverse group of people (their own community, state and federal agencies, etc)?

They can be a resident, a staff person, or a community leader.

What is the role of the plan coordinator?

- *Resident, staff person, or leader*- The plan coordinator does not need to hold any particular position within the community. Their personality is more important. Can they work well with others? *Driving force* - The coordinator keeps the plan moving, makes sure things happen.
- *Spokesperson* – The coordinator needs to be able to answer questions about the plan from local residents, and potentially speak at planning commission, assembly, or council meetings.
- *Motivator* - The coordinator gets people excited about the plan.

Lesson 2 Getting Ready to Plan

Instructor Tips

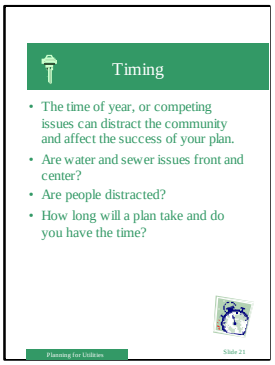
• Students should know how long it might take to do a plan and understand that the community needs to be ready - i.e. "the time must be right" for the plan to be successful.

• Have a calendar poster on the wall to represent one aspect of "Timing."

• Discuss timing as it relates to the "readiness" of the community - i.e. issue-based decision v. calendar-based decision.

References

- SPG Page 5
- SPG Appendix A, Page A-6 and A-7
- APG Technical Appendix G



Ideas for Real Life Examples

• Identify some typical subsistence and construction seasonal limitations from other communities.

• Interject a story about a plan/project that stalled out or failed because people were distracted with other problems or activities.

Potential Discussion Questions

• When might be a <u>good</u> time to do a plan in your community?

• When might be a <u>bad</u> time to do a plan in your community?

Speaker Notes

This section discusses **timing** and the planning process.

Someone once said, "Timing is everything." This same statement applies to sewer and water master planning. If the timing for doing a plan in your community is not right, the planning process will be difficult and the plan will likely not be completed or be successful.

How do you determine if the timing is right?

Look to your community to answer this question. Ask yourself, the planning coordinator, and leaders in the community the following questions:

• What are the seasonal limitations on doing a plan - identify the subsistence and construction seasons for your community. Notify the grantor and consultant of these times.

• Have you done a visioning exercise recently? What were the results?

• Do you know what the most important issues facing the community are? Is water and sewer at the top of the list? Or is the need for a new fire hall more important?

• How long will the plan take and do you have the time to complete it?

Timing

This section discusses timing and the planning process.

Someone once said, "Timing is everything." This same statement applies to sewer and water master planning. If the timing for doing a plan in your community is not right, the planning process will be difficult and the plan will likely not be completed or be successful.

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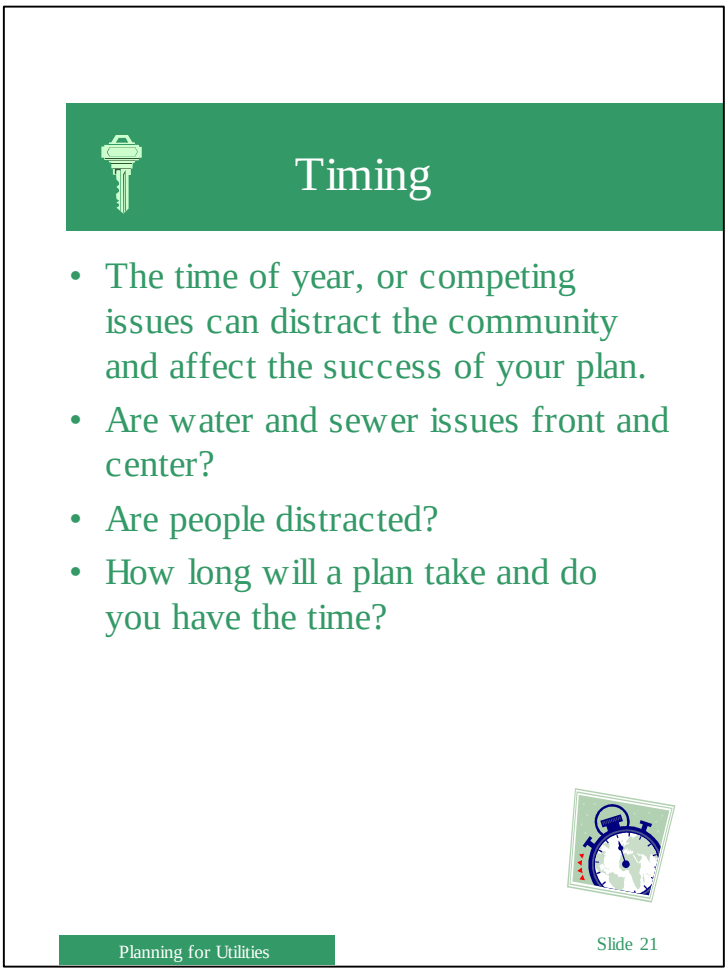


- What are the seasonal limitations on doing a plan - identify the subsistence and construction seasons for your community. Notify the grantor and consultant of these times.
- Have you done a visioning or goal setting exercise recently? What were the results?
- Do you know what the most important issues facing the community are? Is water and sewer at or near the top of the list? Or is the need for a new fire hall more important?
- How long will the plan take and do you have the time to complete it?

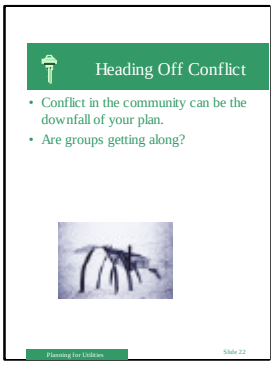
Instructor Tips

• Students should understand that internal conflict in the community can sidetrack the plan. Personalities can get in the way causing the planning effort to fail.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 5
- SPG Appendix A, Page A-14
- *Dispute Resolution: A Handbook for Land Use Planners and Resource Managers*



Exercise 4

Ideas for Real Life Examples

• Interject a story about a plan or project that failed because of conflict (e.g. Corporation that didn't get along with the City).

Potential Discussion Questions

• Are there any examples from any of the participants where internal conflict within the community sidelined a project or plan?

Speaker Notes

This section presents information on how to **head off conflict**.

•*Conflict in the community can be the downfall of your plan*. Explain to students the importance that conflict in the community can have on the plan's success. If there are factions in the community now may be a bad time to start the plan. Typically residents know if there is conflict in the community but the Native culture may not allow that to be acknowledged publicly.

•*Are groups getting along?* If there is conflict, but the plan is going ahead anyway, the community or plan coordinator may want to suggest some ways to work through the conflict so that it does not get in the way of the planning effort, I.e. conflict resolution.

• ***How do you head off conflict?*** *It is good to know how to deal with disputes.* This technique is often called Conflict Resolution and typically means that you do the following:

- Conduct a Conflict Assessment
- Rely on traditional ways that work in your community.
- Work together and focus on real interests & values.
- Ask all involved to work through the conflict.
- Invent options that help everybody.
- Think creatively.
- Do not exclude anyone and minimize disruptions.

Conduct Exercise 4 - Heading Off Conflict

Purpose of Exercise - to introduce skills for working with difficult situations and factions in the community.

Heading off Conflict

This section presents information on how to head off conflict.

Conflict in the community can be the downfall of your plan. If there are factions in the community, now may be a bad time to start the plan. Typically residents know if there is conflict in the community.

Are groups getting along? If there is conflict, but the plan is going ahead anyway, the community or plan coordinator may want to suggest some ways to work through the conflict so that it does not get in the way of the planning effort, i.e. conflict resolution.

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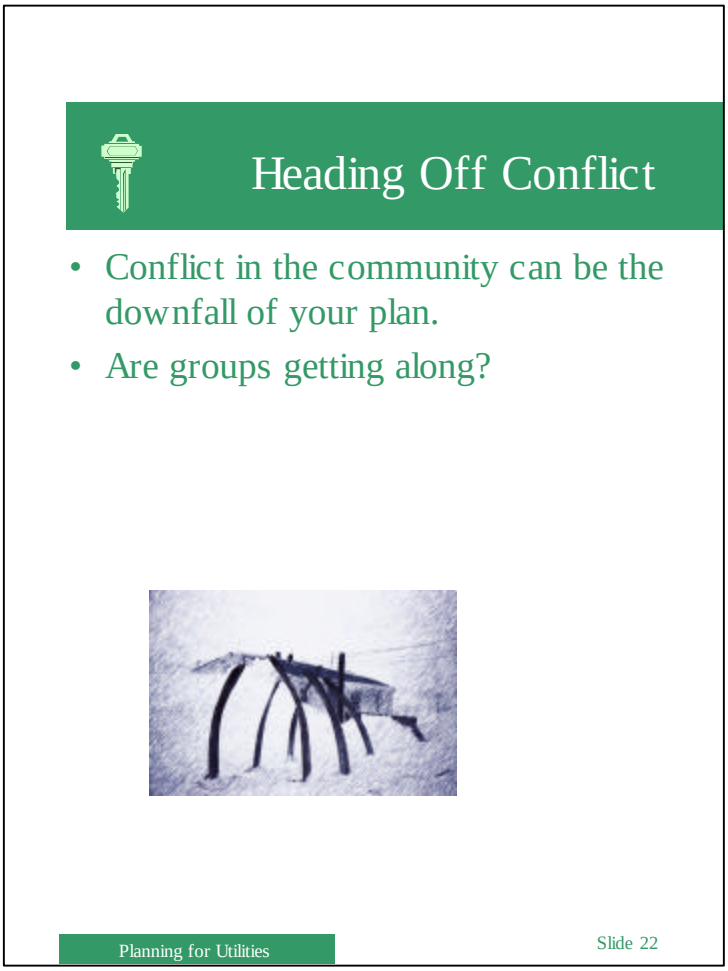


- Conduct a Conflict Assessment
- Rely on traditional ways that work in your community.
- Work together and focus on real interests & values.
- Ask all involved to work through the conflict.
- Invent options that help everybody.
- Think creatively.
- Do not exclude anyone and minimize disruptions.

Lesson 2 Getting Ready to Plan

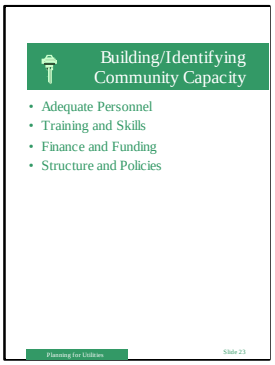
Instructor Tips

• Students should understand what "community capacity" means and why it is an important consideration.

• Make sure you point out that DCED has 6 total training courses - four of which deal directly with community capacity (financial management; personnel management; organizational management; and operational management).

References

- SPG Page 6
- Technical Appendix G



Ideas for Real Life Examples

• Tell a story about a community that did not have the personnel, resources, and/or training to pull off a plan or project.

• Discuss how capacity can affect grant application scores (discuss EPA new scoring system). Provide an example of a VSW or ANTHS grant that scored poorly due to community capacity issues.

Potential Discussion Questions

• Can you think of any other aspects of your community that need to be in place to successfully plan, build, operate, maintain, and finance your new sanitation system?

• What kind of skills and training might you need in your community to conduct a plan? Where might you get assistance if you don't have people with these skills in your community?

Speaker Notes

This last section in the Keys to Success defines for the student the concept of "**community capacity**." Discuss the elements of community capacity and how it relates to the planning process and the overall utility management curriculum. Remember to tell students that there are whole week-long training courses provided by DCED that deal with these very topics.

• *Adequate personnel.* The community needs enough people to do the work. Explain what it means if they don't have enough people.

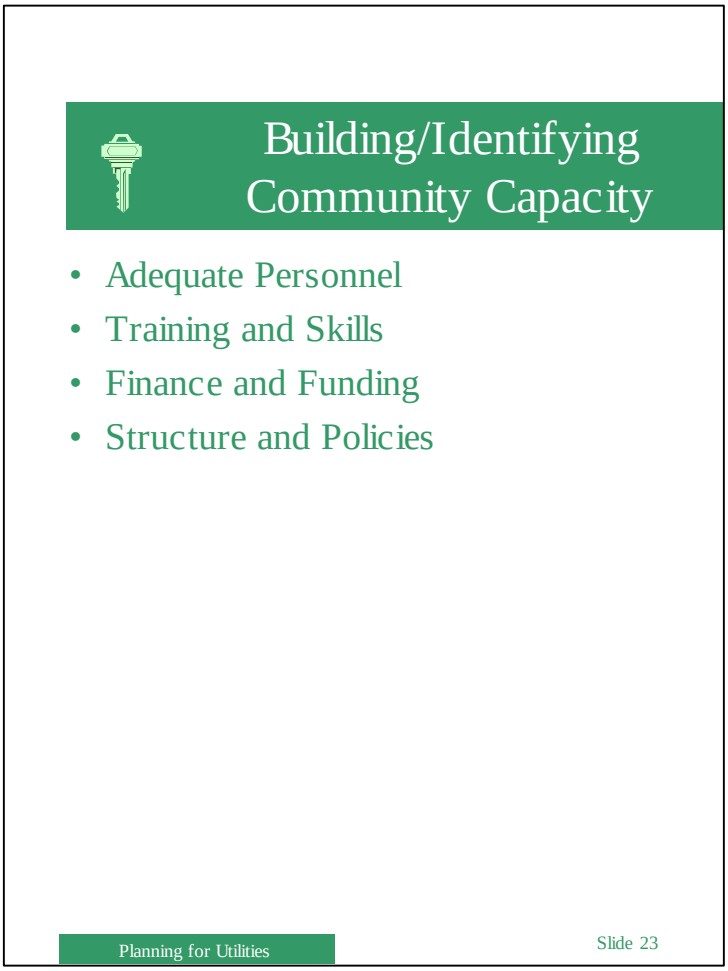
• *Training and skills.* People must have the right skills. Explain what can happen if they have enough people but don't have the skills. E.G. what happens to an accounting system if they don't have a trained bookkeeper? Likely skills needed to complete all five steps of the planning process are are engineering, public involvement, construction management, personnel management, etc…

• *Finance and funding.* Doing the plan, completing the engineering, constructing the improvements, and operating and maintaining the system takes money, equipment, time etc. Does the community have these resources? What happens if they don't.

• *Structure and policies.*- Planning, constructing, operating, and maintaining the system requires good organizational structure and policies. Does the community have this in place? Do they have the wherewithal to get organized?

Building/Identifying Community Capacity

This last section in the Keys to Success defines for the student the concept of "community capacity." The concept of community capacity is woven throughout this course on utility planning and is also addressed in more detail in the other DCED utility management curriculum. In fact, there are whole weeklong training courses provided by DCED that address the following community capacity topics in more detail.



Adequate personnel. The community needs enough people to do the work. If there are not enough people to administer the project, the project is likely to fail.

Training and skills. People must have the right skills. For example, what happens to an accounting system if they don't have a trained bookkeeper?

In order to complete all five steps of the planning process your personnel will need skills in engineering, public involvement, construction management, personnel management, financial management, and organizational management.

Finance and funding. Doing the plan, completing the engineering, constructing the improvements, and operating and maintaining the system takes money, equipment, time etc. Does the community have these resources? Think about what happens if the community does not have the financial ability to manage the money or does not have the funding to do the project.

Structure and policies. Planning, constructing, operating, and maintaining the system requires good organizational structure and policies. Does the community have this in place? Do they have the wherewithal to get organized?

Lesson 2 Getting Ready to Plan

Instructor Tips

• Students should understand what is meant by the term work group, including other names for it such as citizen advisory committee.

• Students should understand how the group can help in the plan.

• Describe the relationship between the work group and the overall public involvement process and the work group and the governing body.

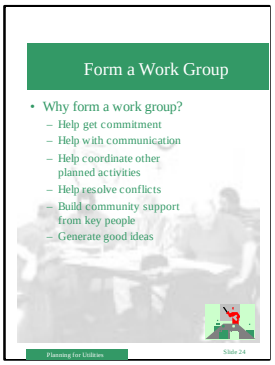
• Remember that text highlighted in **green** represents potential test questions.

Ideas for Real Life Examples

• Provide an example where a work group was used. Why was it formed? What were some difficulties with forming the work group? How did (didn't) it help?

References

- SPG Page 6
- SPG Technical Appendix G



Potential Discussion Questions

• Can you think of other reasons to form a work group in your community?

• Who do you think should be invited to be a part of the workgroup in your community?

Speaker Notes

In this section, the emphasize organizing the public involvement effort and the importance of the work group to overall communication within the community.

Organize the Public Involvement Effort in your community - begin by forming a Work Group.

There are many ways to effectively organize the public involvement effort for the plan. They might include forming a citizen advisory group or work group.

Why form a work group?

To help get commitment to do the master plan.

To help with communication. The work group will be knowledgeable about the plan and schedule, and can pass that information onto community members. The work group can serve as the forum for specific public involvement techniques used during plan development.

To help coordinate other planned activities. Working with the plan coordinator and other work group members ensures better coordination and less overlap.

To help resolve conflicts.

To build community support from key people. If all stakeholders are involved in the work group, there will be more "buy-in" and support for the project as it moves through the planning process.

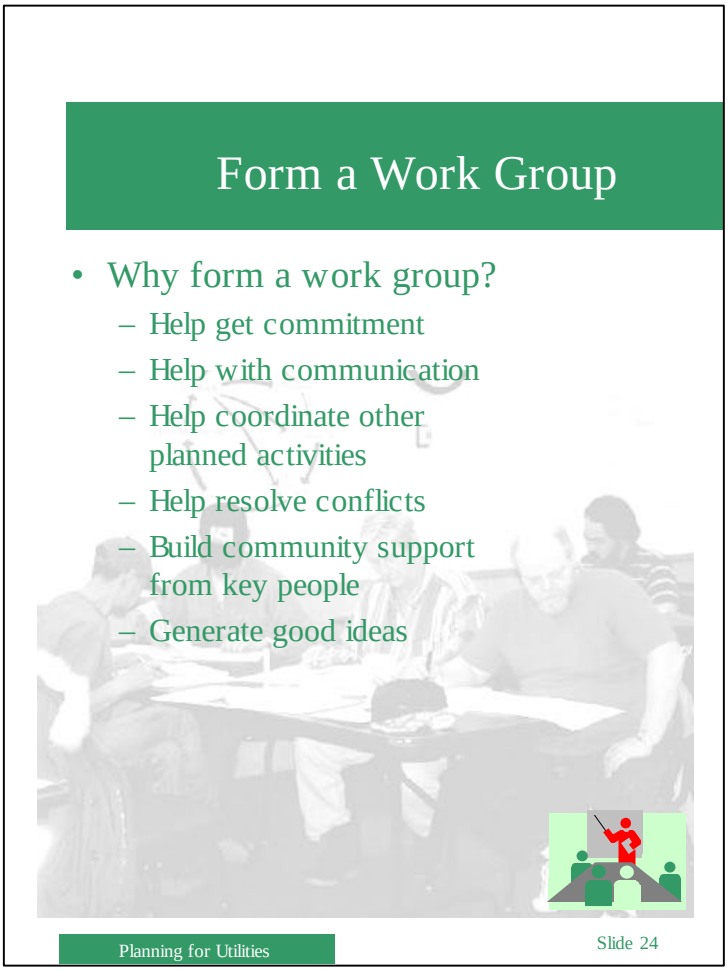
To generate good ideas. The more diverse the group, the better the ideas.

As a note to students, have them look at **Appendix A** in the guidebook for information on stakeholders and forming a work group.

Form a Work Group

This section presents information on organizing the public involvement effort and the importance of the work group to successful communication during the project.

There are many ways to effectively organize the public involvement effort for the plan. They might include forming a citizen advisory group or work group.



Why form a work group?

- To help get commitment to do the master plan.
- To help with communication. The work group will be knowledgeable about the plan and schedule, and can pass that information on to community members. The work group can serve as the forum for specific public involvement techniques used during plan development.
- To help coordinate other planned activities. Working with the plan coordinator and other work group members ensures better coordination and less overlap.
- To help resolve conflicts.
- To build community support from key people. If all stakeholders are involved in the work group, there will be more "buy-in" and support for the project as it moves through the planning process.
- To generate good ideas. The more diverse the group, the better the ideas.

Refer to **Appendix A** in the Sanitation Planning Guidebook for information on stakeholders and forming a work group.

Lesson 2 Getting Ready to Plan

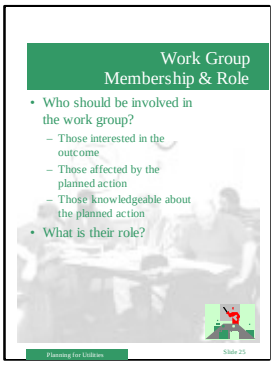
Instructor Tips

• Students should understand who should be involved in a work group and what role the workgroup plays

• Students should understand how the group can help in the plan.

References

• SPG Page 6



Ideas for Real Life Examples

• Provide an example of how a work group list was designed and how members were selected (invitations, etc). What was the group's role? How did the group help the project or plan?

Potential Discussion Questions

• Who do you think should be involved in a work group if you formed one in your community?

• What role should they have?

Speaker Notes

In this section present details on the **membership** and **role of the work group**.

How do you determine who should be involved in the work group? Be inclusive. Invite everyone who may be:

interested in the outcome of the group's efforts. For example, community leaders, agencies, business owners, the school district, and housing authority will likely be interested in sanitation planning as it may impact their decisions.

affected either directly or indirectly by the planned action. For example, residents, businesses, village and regional corporation could be directly affected by the location of sewer and water lines in relation to their property.

knowledgeable about sewer and water and land use issues in your community. For example, long-time residents, elders can provide tremendous knowledge about the community that may not be "published" data.

What is the role of the work group? The work group provides a forum for stakeholders

To represent their interest by voicing the knowledge and opinions of those they represent at work group meetings.

To take information, decisions, and questions from the work group back to those they represent.

To actively attend work group meetings and help complete special projects, (i.e. provide labor)

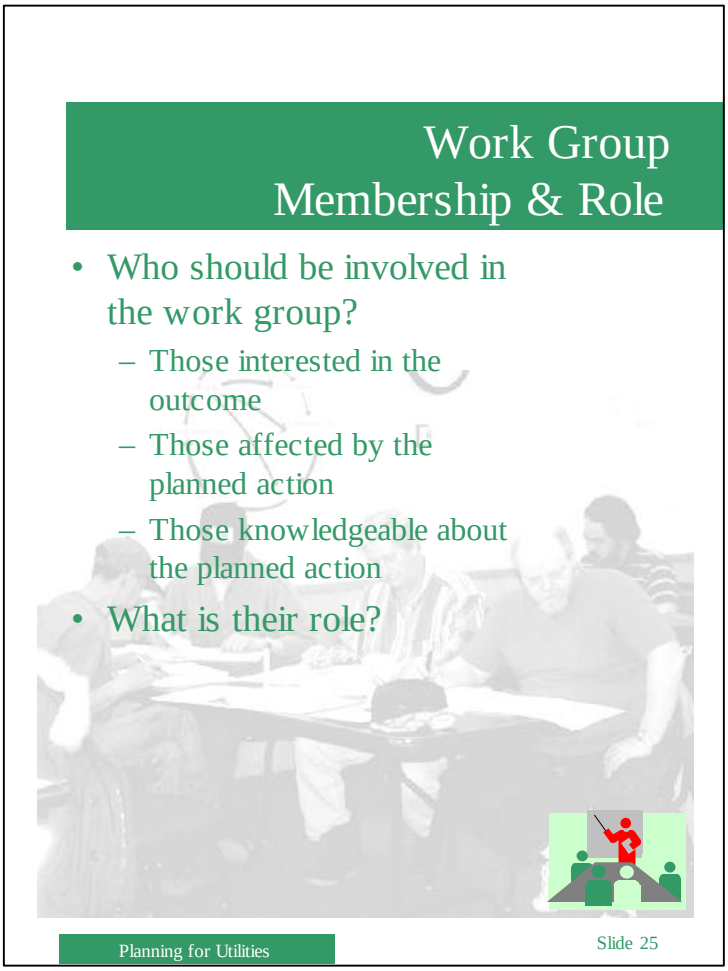
To represent the work group by listening and answering questions outside of meetings. For example, if stopped at the store, the representative should be prepared to listen and respond.

Work Group Membership and Role

How do you determine who should be involved in the work group? Be inclusive. Invite everyone who may be:

- interested in the outcome of the group' s efforts. For example, community leaders, agencies, business owners, the school district, and housing authority will likely be interested in sanitation planning as it may impact their decisions.

- affected either directly or indirectly by the planned action. For example, residents, businesses, village and Regional Corporation could be directly affected by the location of sewer and water lines in relation to their property.



- knowledgeable about sewer and water and land use issues in your community. For example, long-time residents, elders can provide tremendous knowledge about the community that may not be "published" data.

What is the role of the work group? The work group provides a forum for stakeholders:

- To represent their interest by voicing the knowledge and opinions of those they represent at work group meetings.
- To take information, decisions, and questions from the work group back to those they represent.
- To actively attend work group meetings and help complete special projects, (i.e. provide labor)
- To represent the work group by listening and answering questions outside of meetings. For example, if stopped at the store, the representative should be prepared to listen and respond.

Lesson 2 Getting Ready to Plan

Instructor Tips

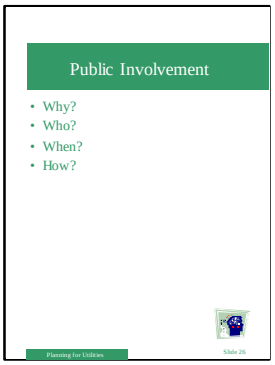
• Students should understand the importance of public involvement.

• Remember to point out that there is a whole appendix on public involvement in the Sanitation Planning Guide.

• Don't spend too much time on this slide as additional slides follow with more detail.

References

- SPG Appendix A
- SPG Technical Appendix A



Overview Slide

Ideas for Real Life Examples

• Provide an example of a good public involvement effort. What made it successful? How was the public involved? How did public involvement affect the outcome of the project or plan?

Potential Discussion Questions

• Ask students to share what public involvement techniques they know about or have used.

• What kind of public involvement has been tried in your community? Did it help? - why or why not?

Speaker Notes

This slide introduces the concept of **public involvement**. Provide a brief overview of the key elements of public involvement section that you will be discussing. Each student should understand the answers to the following questions by the end of the unit:

• *Why involve the public?*

• *Who should be involved?*

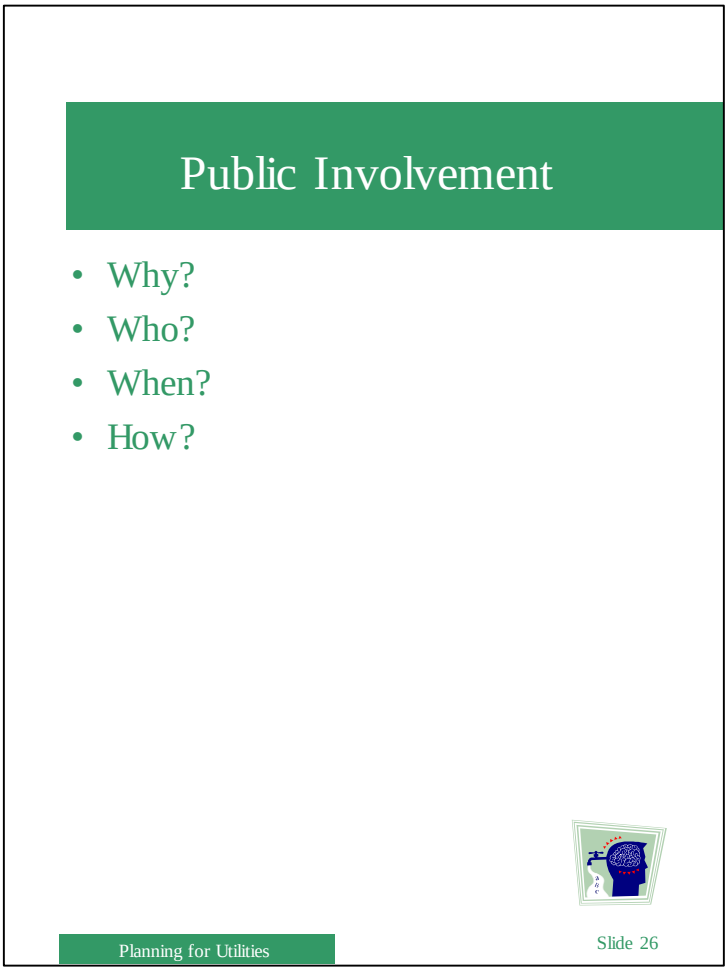
• *When do you include them?*

• *How do you do it?*

Public Involvement

This slide introduces the concept of **public involvement.** It provides a brief overview of the key elements of public involvement section that will be discussed. Each student should understand the answers to the following questions by the end of the unit:

- *Why involve the public?*
- *Who should be involved?*
- *When do you include them?*
- *How do you do it?*



Lesson 2 Getting Ready to Plan

Instructor Tips

• Students should be able to identify reasons why it is important to involve the public.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 4
- SPG Appendix A, Page A-1

Ideas for Real Life Examples

• Incorporate a story about local knowledge.

• Incorporate a story about a project failing to move ahead because of lack of community support based on a poor public involvement strategy.

Potential Discussion Questions

• Why do you think public involvement is important? Why not just develop a plan and let the community know about it later?

• Have students discuss their experiences (good and bad) with public involvement.

Speaker Notes

In this section present details on **why involve the public** in the utility master plan process.

• *Build Ownership*. To empower and assign responsibilities for taking action. With public involvement you gather different opinions, expertise, experiences that you can combine to achieve your community's goals. With it, the community will more likely support the project.

• *Notification.* To inform them about the planning process. Notification is an important and critical role of public involvement. With adequate notification of a project purpose and schedule, you are sure to gain interest in the outcome.

• *Guidance*. To receive guidance and direction from the public throughout the process. Without public guidance, the proposed project may not be built, the best solution may not be identify, and you are likely to end up with a dissatisfied citizenry.

• *Data Gaps.* To gather information from the public to fill in the gaps and to take advantage of local knowledge. Traditional knowledge can then be incorporated into the overall project description and alternatives analysis and refinement.

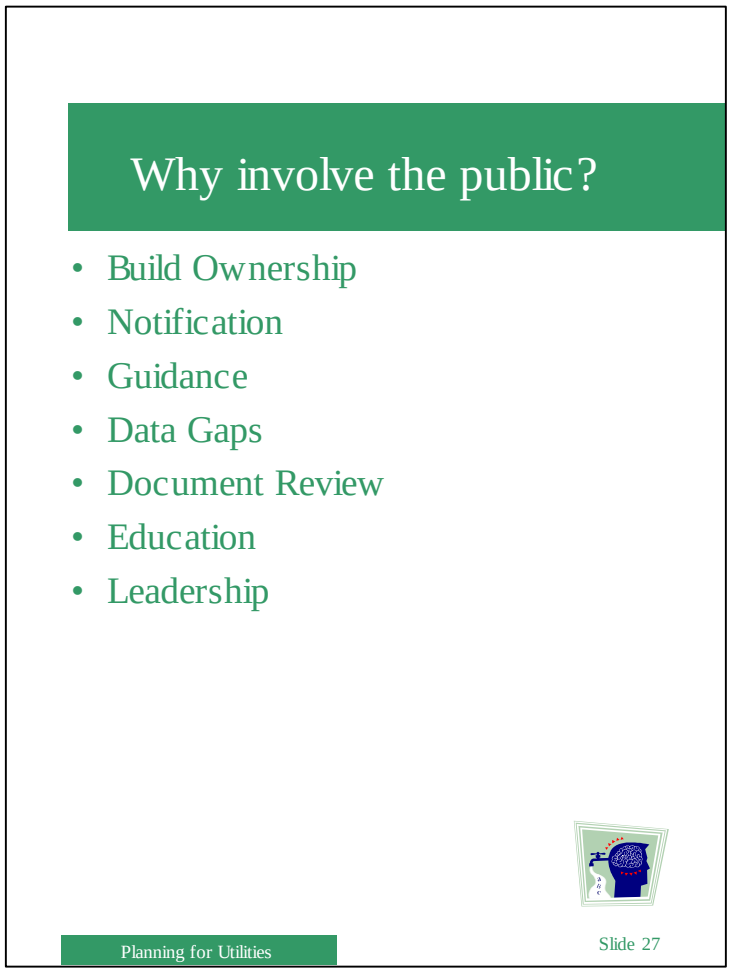
• *Document Review* To have the public review key documents - this ensures that the project is on the right track. By involving the public, you create a cooperative atmosphere for developing and evaluating alternatives.

•*Education.* To educate and in turn build support for the project and encourage ownership in the results.

• *Leadership.* To inspire and promote leadership for the process and project.

Why involve the public?

This section presents details on why you need to involve the public in the utility master plan process.



Reasons include:

Build Ownership. To empower and assign responsibilities for taking action. With public involvement you gather different opinions, expertise, and experiences that you can combine to achieve your community' s goals. With ownership, the community will more likely support the project.

Notification. To inform them about the planning process. Notification is an important and critical role of public involvement. With adequate notification of a project purpose and schedule, you are sure to gain interest in the outcome.

Guidance. To receive guidance and direction from the public throughout the process. Without public guidance, the proposed project may not be built, the best solution may not be identified, or you are likely to end up with a dissatisfied citizenry.

Data Gaps. To gather information from the public to fill in the gaps and to take advantage of local knowledge. Traditional knowledge can then be incorporated into the overall project description and alternatives analysis and refinement.

Document Review To have the public review key documents - this ensures that the project is on the right track. By involving the public, you create a cooperative atmosphere for developing and evaluating alternatives.

Education. To educate and in turn build support for the project and encourage ownership in the results.

Leadership. To inspire and promote leadership for the process and project.

Lesson 2 Getting Ready to Plan

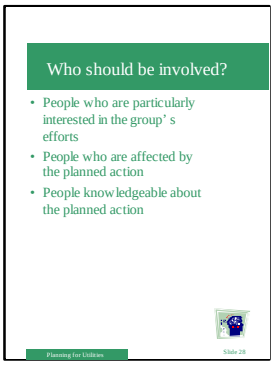
Instructor Tips

• Students should have an understanding of what groups (Stakeholders) they should involve in the planning process.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 4
- SPG Appendix A, Page A-2



Ideas for Real Life Examples

• Incorporate a story about a project failing to move ahead because the some people or groups were not involved. Who was not involved. What happened? Lessons learned….

• Tell a story where the plan succeeded because of stakeholders being involved.

Potential Discussion Questions

• Using a flip chart, ask students to identify who would need to be involved in their community.

• What might happen if those people were not invited or kept informed?

Speaker Notes

Introduce the concept of "stakeholders." Review who they are and their role in public involvement.

Who should you involve? Everyone, but most importantly - Stakeholders

What is a Stakeholder?

Particularly interested in the group's efforts.

Affected by the planned action.

Knowledgeable about the planned action.

What is their relationship to the Work Group? All workgroup members should be stakeholders but not all stakeholders will be invited to be on the work group. The Work Group is made up of "stakeholders" that represent the community, the state and federal agencies and regional groups.

Who should be involved?

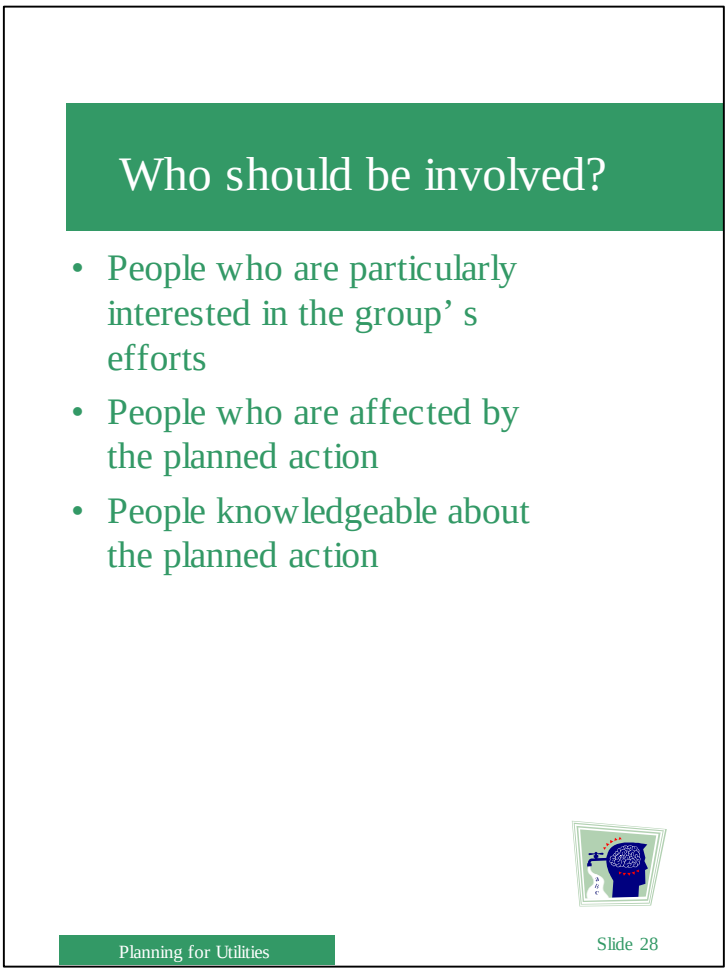
Everyone, but most importantly - Stakeholders

What is a Stakeholder? A stakeholder is someone who is:

- Particularly interested in the group' s efforts.
- Affected by the planned action.
- Knowledgeable about the planned action.

What is the relationship of stakeholders to the Work Group? **All** workgroup members should be stakeholders but **not all** stakeholders will be invited to be on the work group.

The Work Group is made up of "stakeholders" that represent the community, the state and federal agencies and regional groups.



Lesson 2 Getting Ready to Plan

Instructor Tips

• Provide Students with a brief overview of the various public involvement techniques.

• During various exercises over the course of the workshop, remind students "This next exercise we will do is an example of the _____ public involvement technique."

• Remember the techniques described in are in Appendix A of the SPG.

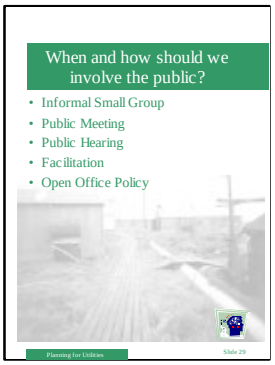
• Remember that text highlighted in **green** represents potential test questions.

Ideas for Real Life Examples

• Provide an example of a successful use of a public involvement technique. Why was it successful? Who was involved? How did it overcome an obstacle in the project?

References

- SPG Page 4
- SPG Appendix A
- SPG Technical Appendix A



Exercise 5

Potential Discussion Questions

• When do you involve the public and how do you know when it is the right time?

• Which of the described techniques have you seen conducted? What was the process? What worked or didn't work with the technique?

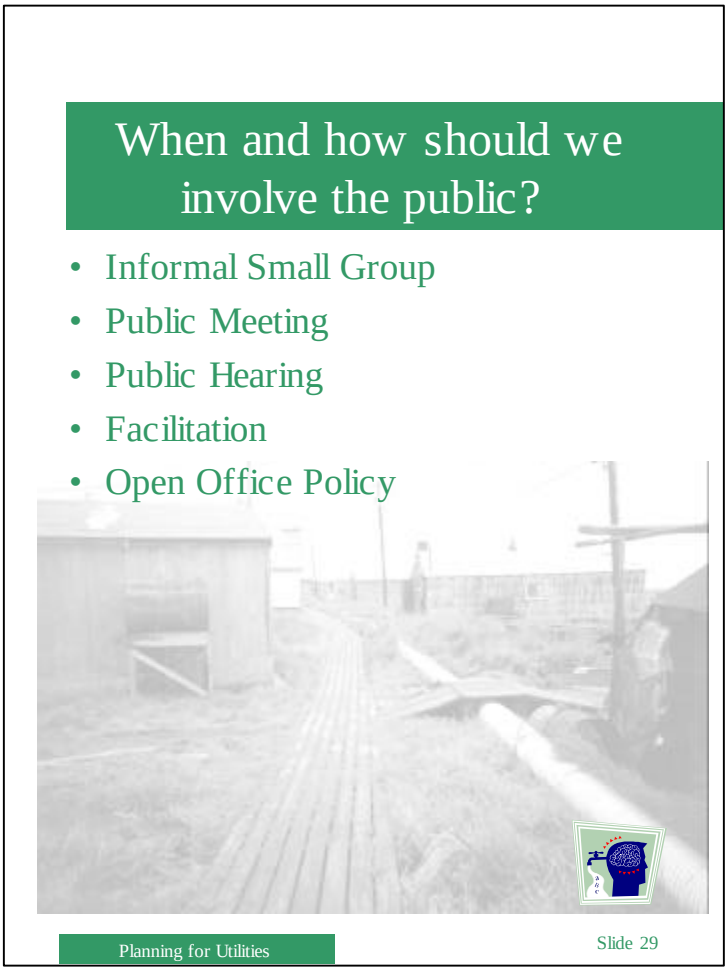
Speaker Notes

Technique	When and How to Use the Technique?
Informal Small Group	Talking at the post office, store. Use to gather information informally, to allow people to communicate informally. Good any time during the process. Keep track of what you hear.
Public meeting	Not a hearing but somewhat formal; held throughout the process to gather information and comments on project alternatives; to select preferred alternative. Need to advertise and keep track of what is said. Be prepared;consider the use of a facilitator.
Public hearing	Formal, decision-making meeting. Typically used at the end when adopting resolution in support of project. Need to advertise and keep minutes.
Facilitation	A technique that allows the meeting to be focused and maximum participation. At any time during the process. Needs to be trained, facilitator. Useful when there is controversy or difficulty reaching consensus.
Open Office Policy	Whether planning coordinator or work group, be available, approachable and keep an open door policy throughout the planning process.

Conduct Exercise 5 or 5a Public Involvement Techniques

When and how should we involve the public?

There are numerous effective techniques for involving the public. Depending on the particular situation, one technique may be more appropriate and more effective. Below is a description of techniques and when and how they might be used.



Technique	When and How to Use the Technique?
Informal Small Group	Talking at the post office, store, etc. Use to gather information informally, to allow people to communicate informally. Good any time during the process. Keep track of what you hear.
Public meeting	Not a hearing but somewhat formal; held throughout the process to gather information and comments on project alternatives; to select preferred alternative. Need to advertise and keep track of what is said. Be prepared; consider the use of a facilitator.
Public hearing	Formal, decision-making meeting. Typically used at the end when adopting resolution in support of the project. A hearing is usually held before adopting the Preferred Alternative. Need to advertise and keep minutes.
Facilitation	A technique that allows the meeting to be focused and maximize participation. Can be used at any time during the process. Use a trained facilitator. Useful when there is controversy or difficulty reaching consensus.
Open Office Policy	Whether planning coordinator or work group, be available, approachable and keep an open door policy throughout the planning process.

Lesson 2 Getting Ready to Plan

Instructor Tips

• Continue to review techniques and when they work.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Appendix A
- SPG Technical Appendix A

Exercise 6

Ideas for Real Life Examples

• Provide an example of a successful use of a public involvement technique from this list. Why was it successful? Who was involved? How did it overcome an obstacle in the project?

Potential Discussion Questions

• Ask students to share their experience, if any, with any of the public involvement techniques.

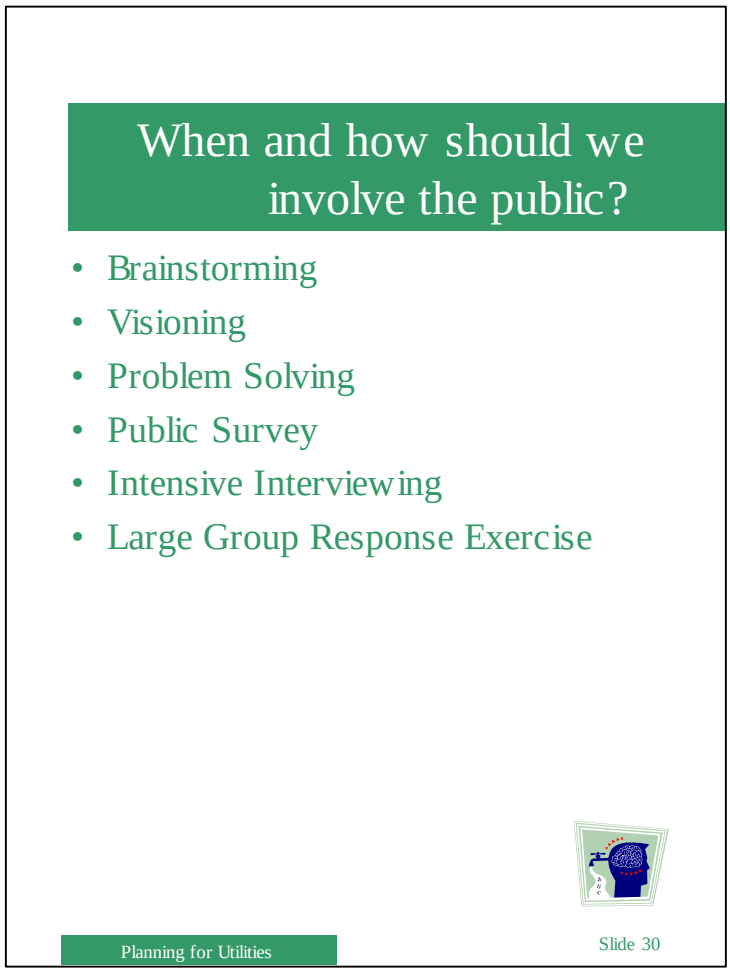
• Which ones worked best for them and why?

Speaker Notes

Techniques (Continued)	**When and How to Use the Technique?**
Brainstorming	Thinking out loud about all ideas & solutions. Good for identifying issues; useful when determining pros and cons. Need to follow the rules for brainstorming.
Visioning	A shared image of what folks want in their community. Useful at the beginning. Rules apply, not a free-for-all. Use a facilitator.
Problem-solving	Quick-paced group meeting to identify solutions to problems. Good when developing alternatives; people work hard to come up with solution. Ensure that structure is well-designed and that facilitator is prepared.
Public survey	Determines public opinion. Good at the beginning of the process.
Intensive interviewing	Allows more focused survey. Good for working with elders or persons having a special/long-time relationship in the community or specialized knowledge; useful for alternatives analysis as complement to a public meeting.
Large group response exercise	Way to quickly display and summarize responses of a large group of people to a set of questions. Useful during development and refinement of alternatives.

Conduct Exercise 6 or 6a Public Involvement Techniques

When and how should we involve the public (continued)?



Techniques (Continued)	**When and How to Use the Technique?**
Brainstorming	Thinking out loud about all ideas & solutions. Good for identifying issues; useful when determining pros and cons. Need to follow the rules for brainstorming.
Visioning	A shared image of what folks want in their community. This technique is very useful at the beginning of the process. Rules apply; this is not intended to be a free-for-all. Use a facilitator.
Problem-solving	Quick-paced group meeting to identify solutions to problems. Good when developing alternatives; people work hard to come up with solution. Ensure that the structure is well designed and that facilitator is prepared.
Public survey	Determines public opinion. This is also good at the beginning of the process. Survey questions should be structured so that answers are easy to analyze and quantify. If feasible, the entire community should be included in the survey. It' s a good idea to test the survey to make sure the questions are easily understood.
Intensive interviewing	Allows more focused survey. Good for working with elders or persons having a special/long-time relationship in the community or specialized knowledge; useful for alternatives analysis as complement to a public meeting.
Large group response exercise	A way to quickly display and summarize responses of a large group of people to a set of questions. Use this technique during development and refinement of alternatives.

Lesson 3 Collecting Information

Goal of this Lesson

To help participants understand why it is important to identify specific issues/problems in the community early in the process, how to set goals and objectives for the future, and how to collect the right information.

Educational Objectives

After completing this lesson participants should be able to -

• Understand how to identify a problem and how to set goals and objectives.

• Describe how to collect technical information.

• Use maps.

• Understand forecasting techniques.

Schedule

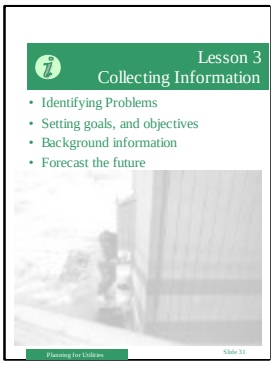
Lesson: 4.5 hours

Length:

- Problem Identification & Goal Setting 1.5 hours
- Background Information and Forecasting 1.5 hours
- Lesson Worksheet .5 hours
- Exercises 1.5 hours

Equipment/Supplies:

- Overhead projector
- Flip chart/easel & markers
- Microphone



Overview Slide

Speaker Notes

Present this as an overview slide of the four components to be discussed in the **Collecting Information** section of the course. They are:

- *identifying problems*
- *setting goals and objectives*
- *collecting background information, and*
- *forecasting the future*

Lesson 3 Collecting Information

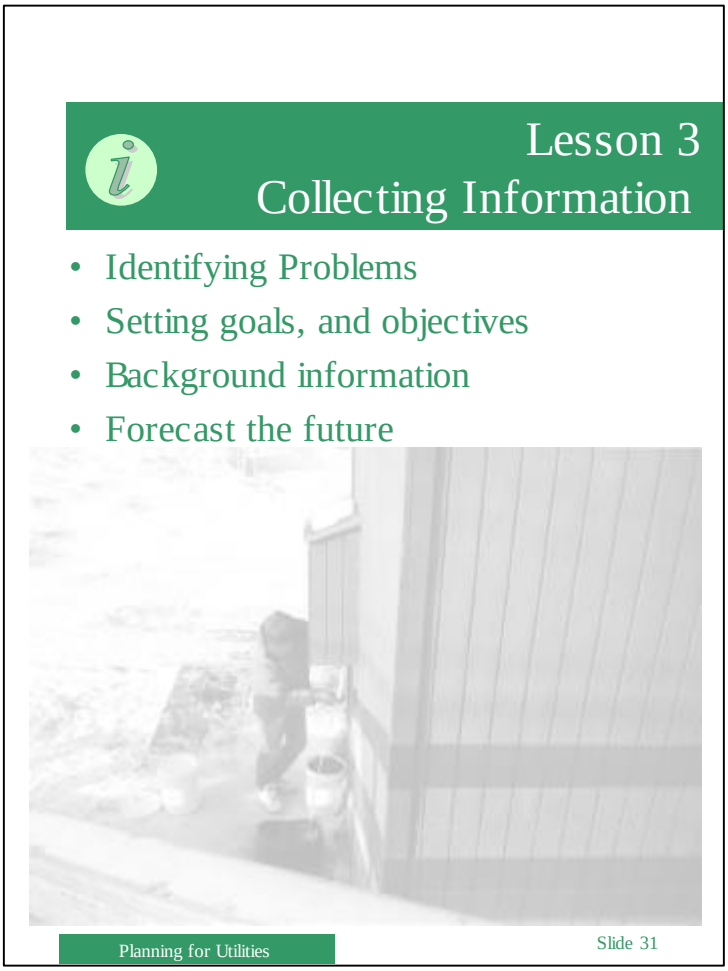
Lesson 3: 4.5 hours

Length:

- Problem Identification & Goal Setting 1.5 hours
- Background Information and Forecasting 1.5 hours
- Lesson Worksheet .5 hours
- Exercises 1.5 hours

There are four components to be discussed in the **Collecting Information** section of the course. They are:

- *identifying problems*
- *setting goals and objectives*
- *collecting background information, and*
- *forecasting the future*



Learning Objectives. To understand why it is important to identify specific issues or problems in the community early in the process, how to set goals and objectives for the future, and how to collect the right information.

After completing this lesson you should be able to:

- Understand how to identify a problem and how to set goals and objectives.
- Describe how to collect technical information.
- Understand more about using maps.
- Understand forecasting techniques.

Lesson 3 Collecting Information

Instructor Tips

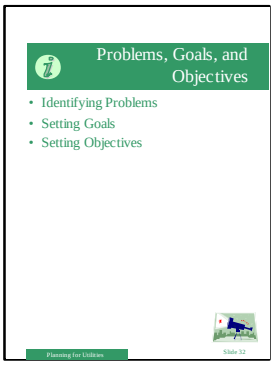
• The key in this section is to discuss how to identify problems; how to set goals; how to set objectives; and what public involvement techniques work best for each task.

• Don't spend too much time on this slide as additional slides follow with more detail.

• Remember that text highlighted **green** represents a potential test question.

References

• SPG Page 7



Overview Slide

Ideas for Real Life Examples

• Provide an example of a community that has a good set of goals and objectives. How does the goals and objectives help the community make decisions?

Potential Discussion Questions

• Have any of you been involved in goal setting exercises? What was the process?

• Ask students what techniques they know of that can be used to identify problems and issues and to set goals and objectives.

• What type of technique in their opinion, worked best and why?

Speaker Notes

Briefly introduce the elements of this section - **Problems, Goals, and Objectives.**

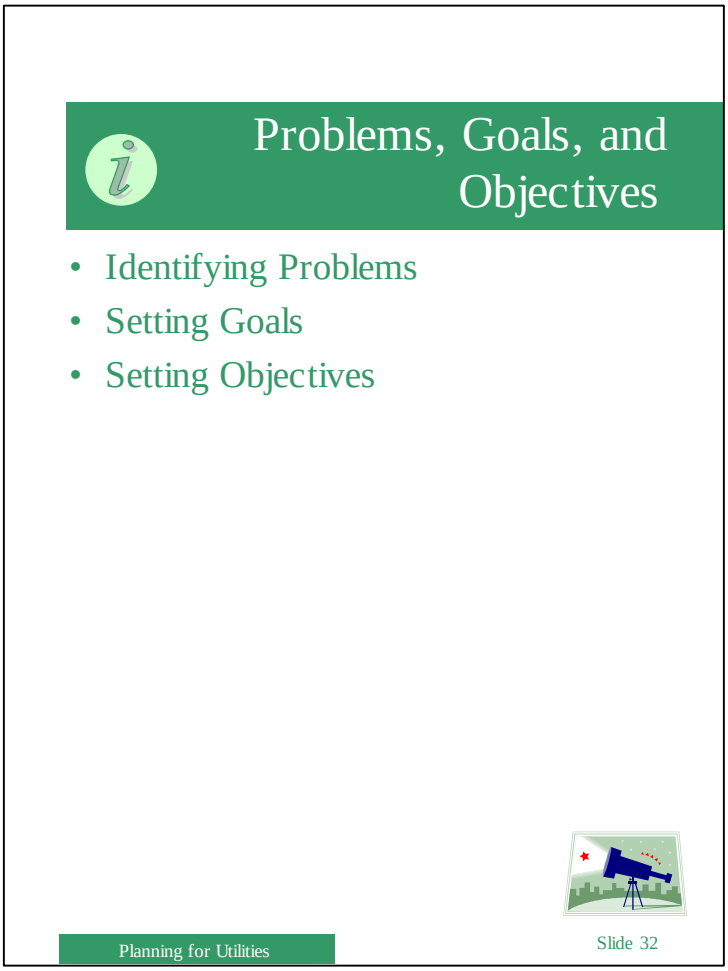
• *Identifying problems.* The first step in sanitation planning is to identify the problems or issues. Knowing what it is you need to fix, resolve, improve, or build provides you with the basic focus for the sanitation plan.

Use facilitation and brainstorming techniques or hold a visioning session or public meeting to identify water and sewer problems as well as general community problems and issues. Problems may include not only sewer and water problems but other community development concerns such as location of future housing, public facilities, schools, roads, airport and any environmental problems. In some cases, the problem may present itself as an opportunity for the individual community.

• *Setting Goals & Objectives.* "If you don't know where you are going, you'll never get there." This holds true for sanitation planning. The goals and objectives bring the sanitation plan to life. If you don't have a clear vision of your goals for resolving the identified problems the project is more likely to fail. We will learn how to set your goals for addressing the problems, and how you identify what you are specifically going to do to achieve those goals,.

Problems, Goals and Objectives

This section presents details on identifying problems, and setting goals and objectives.



Identifying Problems. The first step in sanitation planning is to identify the problems or issues. Knowing what it is you need to fix, resolve, improve, or build provides you with the basic focus for the sanitation plan.

Use facilitation and brainstorming techniques or hold a visioning session or public meeting to identify water and sewer problems as well as general community problems and issues. Problems may include not only sewer and water problems but also may include other community development concerns such as location of future housing, public facilities, schools, roads, airport and any environmental problems. In some cases, the problem may present itself as an opportunity for the individual community.

Setting Goals & Objectives. "If you don't know where you are going, you'll never get there." This holds true for sanitation planning. The goals and objectives bring the sanitation plan to life. If you don't have a clear vision of your goals for resolving the identified problems, the project is more likely to fail.

Instructor Tips

• Students should understand that issues and problems are similar and that general community development problems are important to sanitation planning.

• Be sure you point out that in order to identify problems, many different people need to be involved - the process needs to include diverse interests.

Exercise 7

Ideas for Real Life Examples

• Provide an example of a successful use of a public involvement technique that brought the public together to identify problems.

Potential Discussion Questions

• What are the problems facing your community? How might these general problems relate to sanitation planning?

• Why might it be important to know problems like housing or transportation problems when planning for sanitation projects?

Speaker Notes

How do we identify problems? The key to identifying the problem is to know **who** to ask and **how** to ask them.

• *Ask the public*. The Work Group is a good place to start. Using a small group discussion technique and brainstorming, facilitate a problem-identification session. Be sure to include not only the Work Group members but anyone interested from the community, the local government, the state and federal governments, and regional organizations. In addition to the small group meeting, consider doing a survey of the community and intensive or informal interviews with community leaders. These two additional techniques will allow you to reach a wider, more diverse group that may be unwilling or unable to attend meetings.

• *Ask an engineer*. Assuming there is an engineer assigned to the project (either consultant or state/federal staff), ask them to identify water and sewer problems in your community. Ask them to supply supporting information such as reports, maps, photographs, cost estimates to upgrade or repair. You may need to have the engineer inspect the existing system.

• *Ask your staff.* Talk to your utility operator, your village or city administrator, and anyone else on staff that might have had experience with both managing the utility and maintaining and operating the utility.

Note: Many general community development problems are closely linked to water and sewer problems. Encourage participants to share any issues or problems they know of regarding housing needs, road issues, and environmental concerns.

Conduct Exercise 7 Problem Identification
Purpose of Exercise - to learn different ways to identify problems in a community.

How do we identify problems?

The key to identifying the problem is to know **who** to ask and **how** to ask them. An engineer alone should not identify water and sewer system problems. Everyone must help identify problems, needs, goals, and objectives.

Ask the Public. The Work Group is a good place to start. The Work Group must hear from the public. Get residents to talk about the problems they have with the community as a whole and not just the water and sewer problems. Using a small group discussion technique and brainstorming, facilitate a problem-identification session. Be sure to include not only the Work Group members but anyone interested from the community, the local government, the state and federal governments, and regional organizations. In addition to the small group meeting, consider doing a survey of the community and intensive or informal interviews with community leaders. Ask residents to identify the problems they have had, ones they see coming up, and which ones are short-term and long-term problems. Have residents tell you which problems are most important.

These two additional techniques will allow you to reach a wider, more diverse group that may be unwilling or unable to attend meetings.

Ask an Engineer. Assuming there is an engineer assigned to the project (either consultant or state/federal staff), ask them to identify water and sewer problems in your community. Ask them to supply supporting information such as reports, maps, photographs, and cost estimates to upgrade or repair. You may need to have the engineer inspect the existing system. Ask them to list the problems from a professional engineering perspective. It' s not too early to start thinking about the cost of operating and maintaining a new water and sewer system. The problems you may be having operating or maintaining your current system are important to know about as you start to think about the system you want in the future.

Ask your staff. Talk to your utility operator, your village or city administrator, and anyone else on staff that might have had experience with both managing the utility and maintaining and operating the utility.

Note: Many general community development problems are closely linked to water and sewer problems. Can you think of any in your community?

Instructor Tips

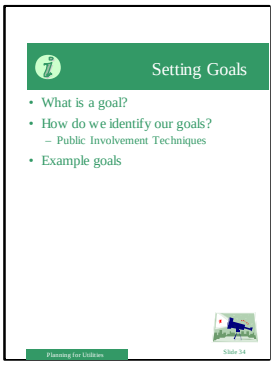
• Students need to understand what a goal is and how to develop goal statements.

• Students need to understand the link between Issues and goals.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 7
- SPG Appendix A, Pages A-6, 7, 9, and 11



Ideas for Real Life Examples

• Provide examples of well-worded goal statements.

• Provide example of a public involvement technique that works for goal-setting.

• Tell a story where having goal statements helped a project. Why did it help?

Potential Discussion Questions

• How might a goal statement help the community make better decisions?

• Are you aware if your community has a set of goal statements? What are they?

Speaker Notes

In this section, present information on **Setting Goals.** Describe what a goal is, how to identify one, and applicable public involvement techniques.

• *What is a goal?* Goals are broad statements designed to solve the problem identified. Goals are guiding statements of what the community would like to become in the future.

• *How do we identify goals?* In order to set goals and define your community's vision for the future, it should answer key questions such as:

- Where are we headed? What will our village look like in 20 years?
- What values do we find most important?
- What kind of future do we want to create?

•*Example Goal Statement*

To provide flush toilets to each house in the community.

•***Public Involvement Techniques for Setting Goals***

Brainstorming, creating a vision, public survey, and large group response exercise are techniques that can be used to set goals.

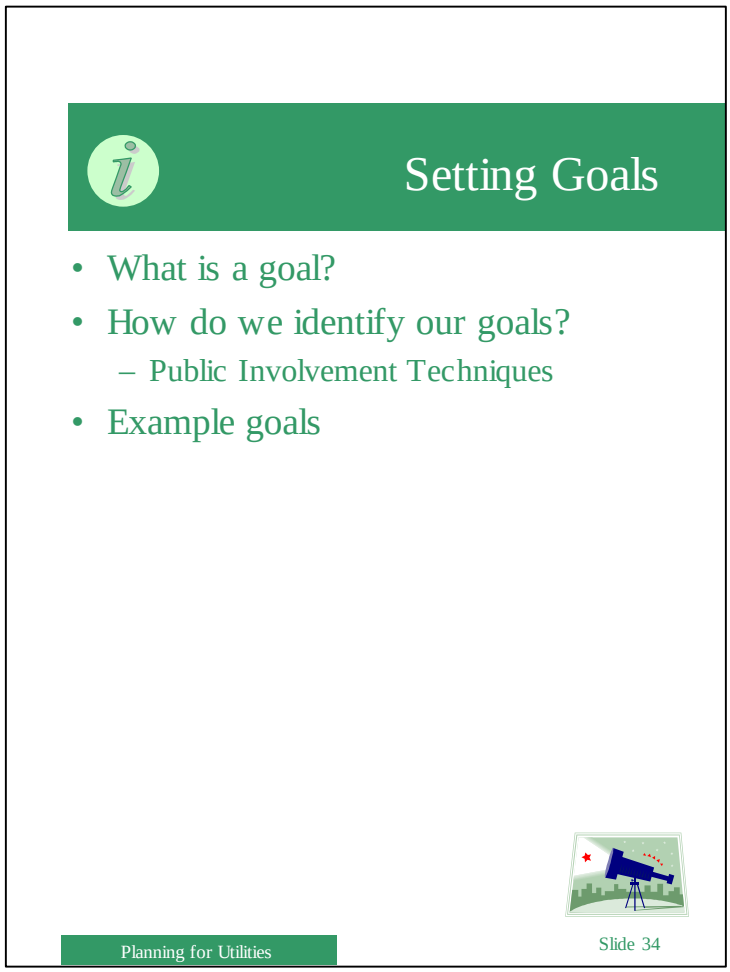
Setting Goals

What is a goal? Goals are broad statements designed to solve the problem identified. Goals are guiding statements of what the community would like to become in the future.

How do we identify goals? In order to set goals and define your community's vision for the future, the community should answer key questions such as:

- Where are we headed? What will our village look like in 20 years?
- What values do we find most important?
- What kind of future do we want to create?

The answers to these questions guide your water and sewer plan because community goals:



- Describe what people want
- Look to the future
- Say things that most everyone can agree with
- State the issues that residents find most important

Example Goal Statement.
To provide flush toilets to each house in the community.

Public Involvement Techniques for Setting Goals. Brainstorming, creating a vision, public survey, and large group response exercise are techniques that can be used to set goals.

Lesson 3 Collecting Information

Instructor Tips

• If students thought goal-setting was hard, objectives are even harder. Be sure to go over the difference between goals and objectives. Practice writing a few in the lesson.

• Students should understand the link from issues to goals, to objectives.

• Remember that text highlighted in **green** represents potential test questions.

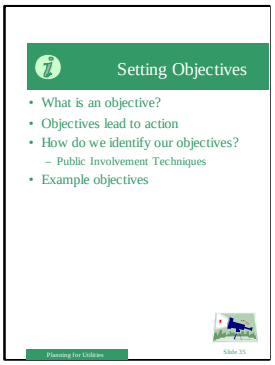
Ideas for Real Life Examples

• Provide an example where a successful use of a public involvement technique helped in developing objectives.

•Provide examples of well-worded objective statements.

References

- SPG Pages 7 & 8
- SPG Appendix A, Pages A-8 and A-11



Exercise 8

Potential Discussion Questions

• Ask students to share their experience in dealing with goals and objectives

• Which ones worked best for them and why?

Speaker Notes

In this section present information on **Setting Objectives.** Describe what is an objective, how to develop one, and useful public involvement techniques for setting objectives.

• *What is an objective?* Objectives lead to action. Objectives help ensure the goal is reached.

An objective is a specific way to attain the broader goal. Its results can be measured. Objectives help to bring agreement on how to achieve the goal; without an objective the goal may end up being meaningless.

• *How do we identify our objectives? Will we know one when we write one?*

You can tell you have written an objective when it identifies what is going to be done to achieve the goal. The objective will state when the goal is to be done and sometimes who will do it.

• *Example of an Objective.*

At least 60% of all households shall be hooked up to sewer by the year 2005.

• *Public Involvement Techniques for Setting Objectives*

Large group response exercise, facilitation, and structured problem solving are techniques that can be used to set goals.

Conduct Exercise 8 Setting Goals and Objectives

Purpose of Exercise - to give students experience in actually writing goals and objectives.

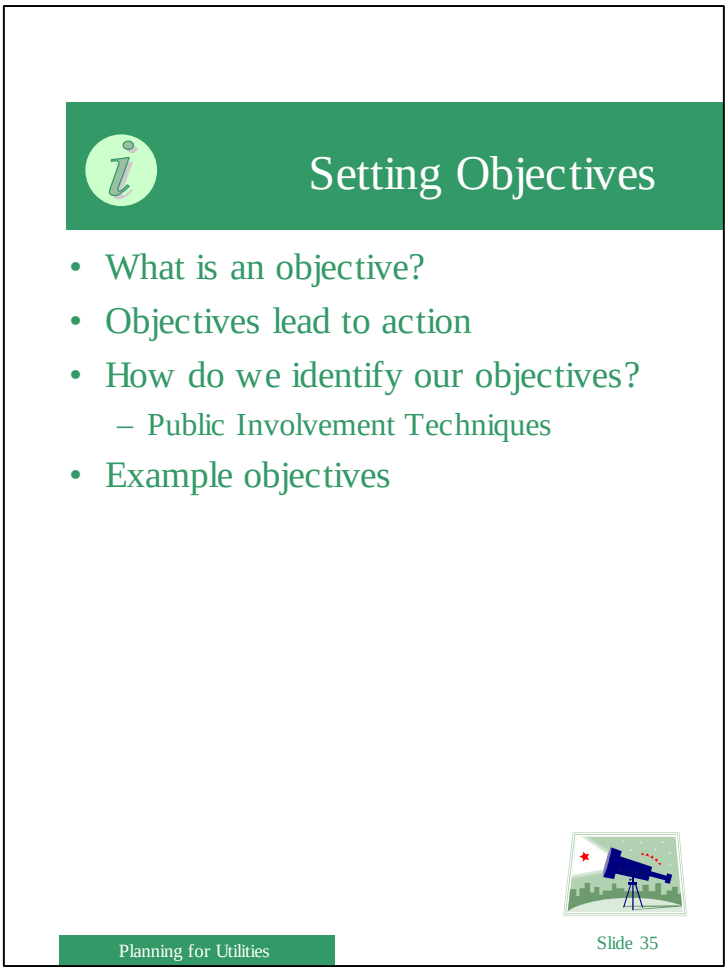
Setting Objectives

What is an objective? Objectives lead to action. Objectives help ensure the goal is reached.

An objective is a specific way to attain the broader goal. Its results can be measured. Objectives help to bring agreement on how to achieve the goal. Without an objective the goal may end up being meaningless.

How do we identify our objectives? Will we know one when we write one?

You can tell you have written an objective when it identifies what is going to be done to achieve the goal. The objective will state when the goal is to be done and sometimes who will do it.



Writing goals and objectives is more challenging than naming problems because goals and objectives refer to the future and not to your everyday experience. They are important for guiding future development and therefore critical for planning your water and sewer upgrades.

Example of an Objective.
At least 60% of all households shall be hooked up to sewer by the year 2005.

Public Involvement Techniques for Setting Objectives Large group response exercise, facilitation, and structured problem solving are techniques that can be used to set goals.

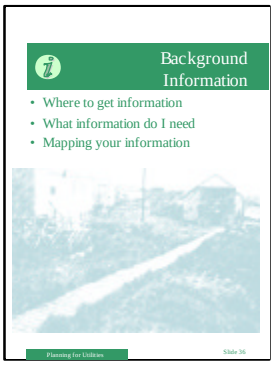
Instructor Tips

• Emphasize that this is the step where the community lays the groundwork for making decisions about future development.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 9-13
- SPG Technical Appendix I



Overview Slide

Ideas for Real Life Examples

• Show student the background information section from a typical sanitation plan.

Potential Discussion Questions

• Ask students to share any research experiences they might have had. What sources were really useful? What kinds of tips would they offer others?

• Why is it important to collect background information?

Speaker Notes

This is an overview slide that introduces the key points in collecting **background information**.

Gather information that is relevant to the problems you are trying to solve and that is relevant to the goals and objectives you want to achieve. Begin by reviewing the problems identified, the goals to be achieved, and the objectives for reaching those goals. Work with the community to ask the following questions:

• *Where can I get information?* Knowing where to acquire information is critical to this step. A good place to start is organizing your efforts using the checklist on page 13 of the guidebook. Conduct interviews with community members and surveys of residents, collect maps, gather information and reports from non-profit organizations, libraries, state and federal agencies, internet sources, and perform field studies if necessary.

• *What information do I need?* Typically you will need data about existing conditions - this includes socio-economic, physical, and community information. Different types of information will be needed depending on the scope or type of your plan or project you are working on.

• *What about maps?* Maps are an excellent way to display information and to get people talking about everything from the location of problems to the creation of solutions. Every master plan should have mapped information about the community setting (buildings, important areas), the physical conditions (soils, wetlands, flood areas), the proposed alternatives, and the preferred alternative.

Background Information

Gather information that is relevant to the problems you are trying to solve and that is relevant to the goals and objectives you want to achieve. Begin by reviewing the problems identified, the goals to be achieved, and the objectives for reaching those goals.

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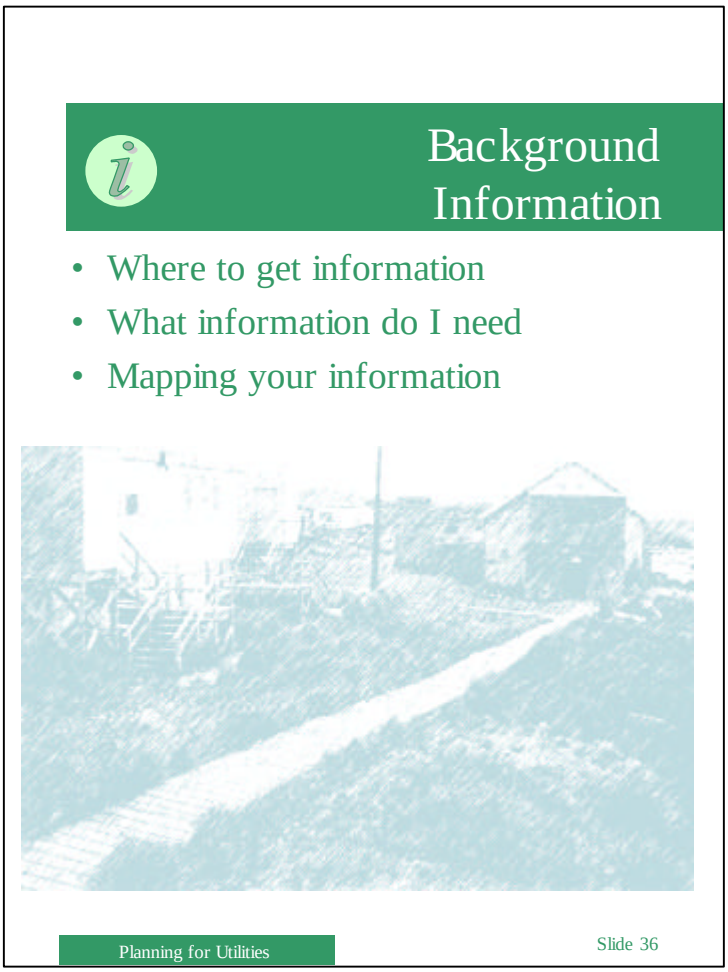

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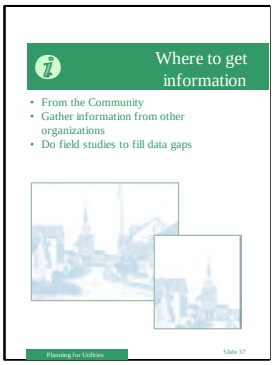
Instructor Tips

• Emphasize that gathering information is knowing what information to get AND where to get it.

References

- SPG Page 9
- SPG Appendix A, Pages A-8 and A-11



Overview Slide

Ideas for Real Life Examples

• Provide examples in class of information sources - use several types such as published reports, maps, and the internet.

Potential Discussion Questions

• Ask students to share their favorite information sources and how they found them.

• Ask students if they can think of any other places to get background information.

Speaker Notes

On this slide briefly review **where to get information** with details to follow. Begin by briefly reviewing the four general places where one could gather information.

• *Ask community members*: Traditional local knowledge is an important part of the information about a community. Talk to elders and community leaders - ask them to share their knowledge about the village, the environment, history, etc.

•*Other Organizations*: State and federal agencies, non-profit organizations, libraries, and the internet have a wealth of information that can be used in this planning step. Be sure to use the checklist in order to keep your effort organized and efficient.

• *Field Studies*: When you cannot find published information, you may have to conduct field studies and gather the information first-hand. Many field studies can be done by the community; others may have to be done by professional scientists, engineers, etc.

Where to get information.
There are three general places where you can obtain information about your community.

Ask community members. Traditional local knowledge is an important part of the information about a community. Talk to elders and community leaders - ask them to share their knowledge about the village, the environment, history, etc.

Other Organizations. State and federal agencies, non-profit organizations, libraries, and the Internet have a wealth of information that can be used in this planning step. Be sure to use the checklist in order to keep your effort organized and efficient.

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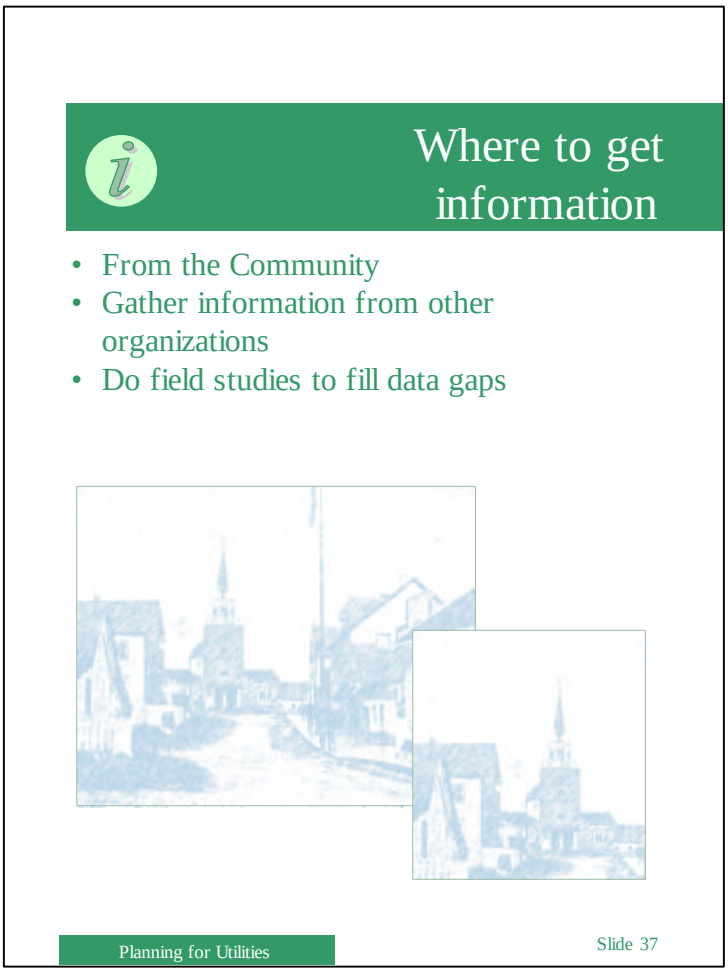
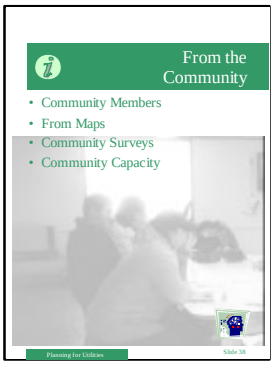


Instructor Tips

• One of the most often overlooked sources of information is the community itself. Review different ways to gather information from residents.

References

• SPG Pages 9 & 10



Ideas for Real Life Examples

• Provide examples of mapping that have been done to gather and document background information. Have on hand examples of community surveys.

Potential Discussion Questions

• What kind of information do you have right in your community?

Speaker Notes

Here is where you now present more details on gathering information **from the community**

• *Community Members.* There are people in your community that have information you need for the master plan. Elders, community leaders, and young people all have information about the community, its existing water or sewer system (if there is one), and the physical environment. In addition, community health aides, city or village employees, the local store owner, teachers, and other residents might have information you can use. Village and regional corporations are also an excellent source of information..

• *Maps.* Have the community do its own map . Have them mark the location of important buildings, subsistence use areas, berry-picking, hunting and fishing, and cultural areas. Have them mark where flooding has occurred even if it is intermittent. Identify the location of sacred places that need to be protected and avoided. Have them locate potential water sources. Using this same base map, have members identify areas suitable for future housing or a new sewage lagoon or new school or water treatment plant. More information on mapping will occur later in this section.

• *Surveys.* Community surveys and assessments can be conducted in order to gather information about the existing system - how well it works, who runs it, the problems with it, and potential solutions. This information will be key to assessing community capacity to build, own, operate, and maintain a future system.

• *Community Capacity.* In planning for sanitation improvements, assessing your community's capacity cannot be overemphasized. It is important that the project in your community has been planned, designed, and implemented to fit your capacity to operate and maintain it. It is important to gather this information from the community early in the planning process.

From the community.

There are many information sources right in your own community.

Community Members. There are people in your community with information you need for the master plan. Elders, community leaders, community health aides, city or village employees, the local storeowner, teachers, and other residents all may have information about the community, its existing water or sewer system (if there is one), and the physical environment.

Maps. One idea you might want to try is to have the people in your community make a map. Have them locate important buildings, subsistence use areas, berry-picking, hunting and fishing, and cultural areas. Have them mark where flooding has occurred. Identify the location of sacred places that need to be protected and avoided. Have them locate potential water sources. Using this same base map, ask the work group members or leaders to identify areas suitable for future housing or a new sewage lagoon or new school or water treatment plant.

Surveys. Community surveys and assessments are a good way to evaluate your water and wastewater system to get an idea of your community' s ability to operate and maintain what you have already. This information will plan for its future needs.

Community Capacity. In planning for sanitation improvements, assessing your community' s capacity cannot be overemphasized. It is important that the project in your community has been planned, designed, and implemented to fit your capacity to operate and maintain it. Many projects have been planned, designed, and implemented when later it was determined that the community did not have the capacity to run the system or improvements.

Gathering Information via Telephone. If you use the telephone to gather information (a community survey or agency contact), be prepared to take notes. Be courteous, identify yourself up front, determine whether you are talking to the right person, ask clear concise questions, ask for hard copies of reports, and thank the person for their time.

Lesson 3 Collecting Information

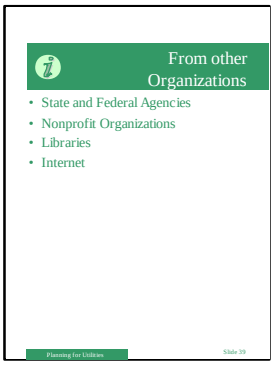
Instructor Tips

• If possible, have a current list of state and federal agencies and nonprofits applicable to the region in which the course is taught.

• Highlight the various organizations and type of information they provide. Include village and regional corporations, non-profits.

References

- SPG Page 10
- SPG Appendix A, Pages A-8 and A-11



Ideas for Real Life Examples

• Have on hand bibliographies from published sewer and water master plans.

• Provide an example of project where background information was missing or not collected that led to bad decisions being made - only to find out later that _____ agency had just the information we needed.

Potential Discussion Questions

• Can you think of other places to get background information about your community?

Speaker Notes

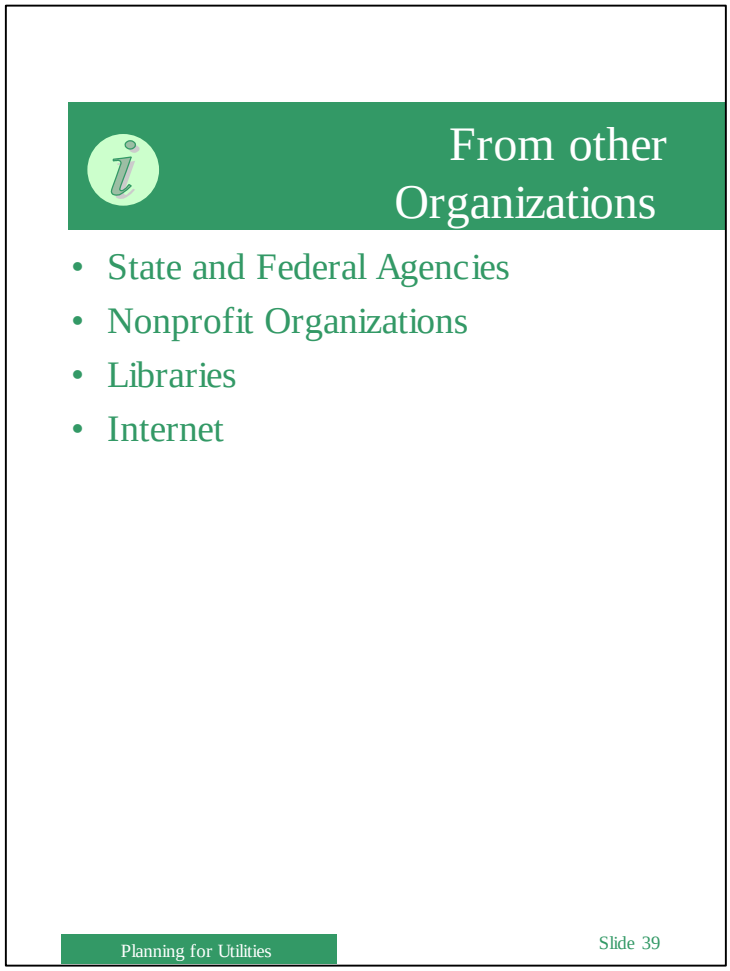
In this section present details on gathering information **from other organizations.**

• *State and Federal Agencies.* Many state agencies may have already gathered information about your community. Agencies like the ADOT&PF collect community transportation information as they develop airport, road, or marine highway projects in each community. In many cases, ADOT&PF or another agency may have aerial photography or detailed maps. In some cases, they may have collected physical information (soils, geology, wetlands, hydrology) for their projects. The DCED and ADOL collect information about the people and economy in your community. This includes information about the local government structure, the population, employment, income, land use, and site control or land ownership. The USFWS and ADFG collect important information about fish and wildlife - species, population, breeding, rearing and feeding habitat, vegetation and wetlands, and subsistence. The ADEC may have information regarding air, land and water quality, and contaminated sites.

• *Nonprofit Organizations.* Valuable information can also be found from your local nonprofit. For example,the regional nonprofit corporation may have more current demographic, land ownership information, and even mapping. The local housing authority will have information on housing needs and proposed housing projects. The University of Alaska (ISER) and statewide tribal organizations (like AVEC in the YK region or Chugachmiut in PWS region) and others also collect information for many rural Alaska regions.

•*Libraries and the Internet.* Alaska libraries are linked to each other and to the Internet making research much easier nowadays. Many of the state and federal agencies and nonprofits also link to the Internet and to the state library system. If you do not have internet access, calling the library will also work. These two sources also allow you to involve local school children in the information gathering step.

From other organizations



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Libraries and the Internet. Alaska libraries are linked to each other and to the Internet making research much easier nowadays. Many of the state and federal agencies and nonprofits also link to the Internet and to the state library system. If you do not have Internet access, calling the library will also work. In addition, most agencies and other nonprofit groups have their own libraries with specialized information. If your community does not have Internet access, you can get help from many libraries by calling directly and asking the reference desk for assistance. It is helpful if you know the specific type of information (for example, subject, author, etc.) you need before calling.

Instructor Tips

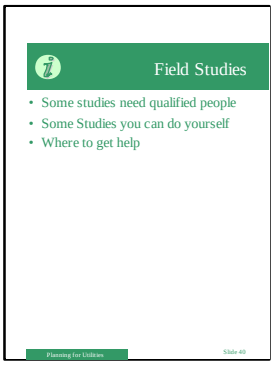
• Explain what field studies are and why they must sometimes be done.

• Students should understand that some studies can be done by residents themselves and other studies they might want help with.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 11
- SPG Appendix A, Pages A-8 and A-11



Ideas for Real Life Examples

• Have available some field study reports for students to look at.

• Provide examples of data that often must be collected in the field because it has never been collected before (e.g. soils, fish habitat)

Potential Discussion Questions

• Ask students if they have ever been involved in data collection/field studies for other projects in their community.

• Have them share how it worked, did they understand how the information was to be used?

Speaker Notes

In this section present details on gathering information **from field studies.**

• *What if information you need does not exist?* You may need information that has not been collected and published in a report. Some of the information you may need will never have been collected before by anybody. In this case, your community may need to do field studies or other research.

• *Some studies need qualified people*. Some studies will require that you or the funding agency hire a qualified professional to do the work. Qualified people should do the work to ensure that the findings provide you with accurate information.

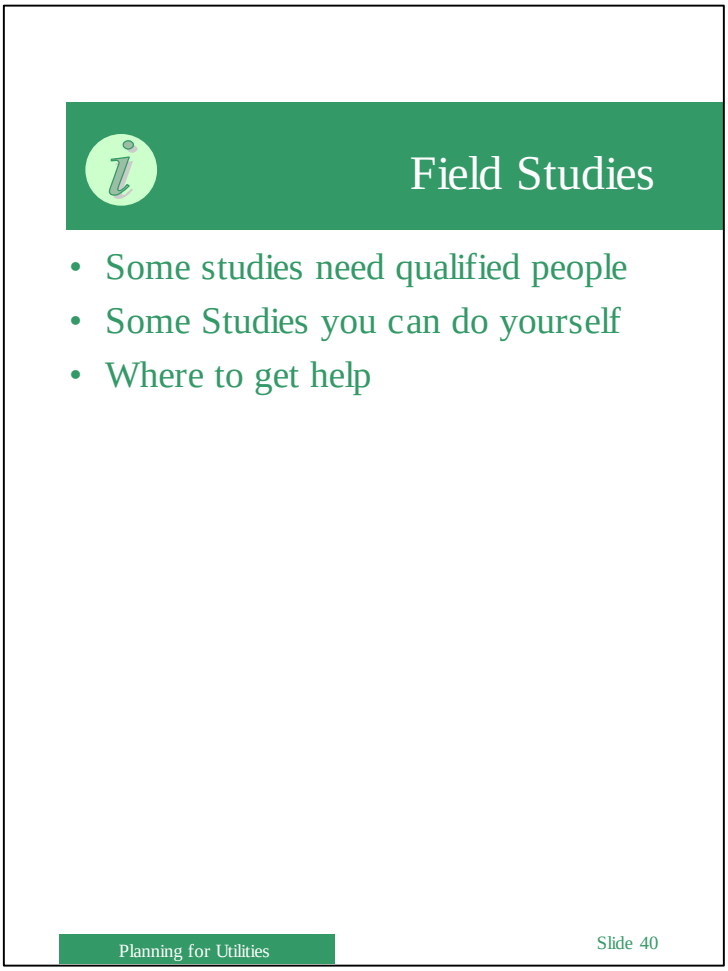
• *Some studies your community can do itself.* The limits to the type of information your community can collect itself depends on how technical the information you need is and whether you have residents with the time and knowledge to collect it. In many villages, locals will keep track of weather or flooding information, collect water samples, or identify culturally important areas.

• *Where can I get help?* If you do not have people in your community that can do field studies, you may need to contact ANTHC, the EPA, or the ADEC/VSW for funding assistance. They can sometimes fund hiring a contractor to do the studies and in some cases, local volunteers may be able to assist with these contracted studies.

Conclusions: Whether you find the information published in a report or have a study done by a consultant, the results may be too technical and difficult to understand. Technical advisors like engineers or scientists employed by one of the agencies, a regional housing authority, or the regional health corporation can help you understand the study findings.

From field studies.

What if information you need does not exist? You may need information that has not been collected and published in a report. Some of the information you may need will never have been collected before by anybody. In this case, your community may need to do field studies or other research.



Some studies need qualified people. Some studies will require that you or the funding agency hire someone with special training to do the work. Qualified people should do the work to ensure that the findings provide you with accurate information.

Some studies your community can do itself. The limits to the type of information your community can collect on its own depends on how technical the information you need is and whether you have residents with the time and knowledge to collect it. In many villages, locals will keep track of weather or flooding information, collect water samples, or identify culturally important areas.

Where can I get help? If you do not have people in your community that can do field studies, you may need to contact ANTHC, the EPA, or the ADEC/VSW for funding assistance. They can sometimes fund hiring a contractor to do the studies and in some cases, local volunteers may be able to assist with these contracted studies.

Conclusions. Whether you find the information published in a report or have a study done by a consultant, the results may be too technical and difficult to understand. Technical advisors like engineers or scientists employed by one of the agencies, a regional housing authority, or the regional health corporation can help you understand the study findings.

Instructor Tips

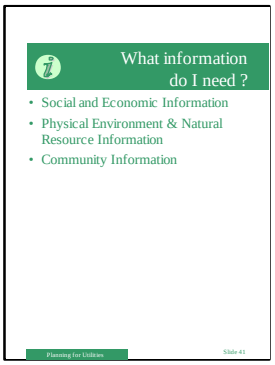
• Students should understand the various types of information needed to prepare a master plan.

• Don't spend too much time on this slide as additional slides follow with more detail.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 13
- SPG Technical Appendix B



Overview Slide

Ideas for Real Life Examples

• Introduce examples/aides from the guidebook such as the sample Table of Contents and the Community Information Checklist. Relate these examples to an actual master plan.

Potential Discussion Questions

• Can anyone think of a reason why this information should be collected - that is how it will be used in the plan?

Speaker Notes

Begin this section with a brief presentation on how to identify the **information needed** for the master plan**.** Emphasize that not all of this information must be collected for every project. Briefly review the three main types of information that are typically needed.

• *Social and Economic Information.* This is information about the people in the community - the demographics, social and government structure, and the local economy.

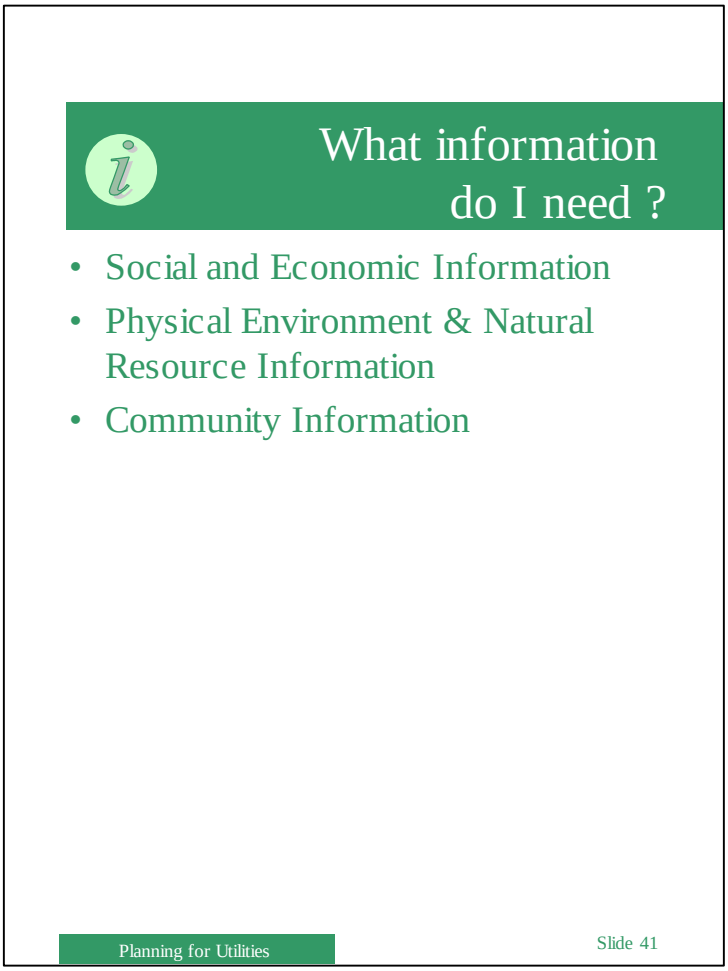
• *Physical Environment & Natural Resource Information.* This information is about the land and water, the fish and wildlife, and the overall physical characteristics of the community and environs.

• *Community Information.* This information is about the community itself - the land ownership patterns, the land use (both existing and future), and the areas important for cultural use by the community.

What information do I need?

This section discusses how to identify the **information needed** for the master plan**.**

Every master plan or sewer and water project will require a slightly different set of information. However, there are three main types of information that are typically needed.



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- *Community Information.* This information is about the community itself - the land ownership patterns, the land use (both existing and future), and the areas important for cultural use by the community.

Lesson 3 Collecting Information

Instructor Tips

• Students need to understand that the master plan should sufficiently describe the existing social and economic conditions in the community.

• They should understand what is meant by terms like social information, demographics, economic information etc.

• They should understand how this information will be used in the plan.

References

- SPG Page 13
- SPG Technical Appendix B

Ideas for Real Life Examples

• Display examples of social and economic information from an existing plan.

• Describe an instance where poor (good) social or economic information led to poor (good) decisions being made e.g. something was designed with too much (too little) capacity.

Potential Discussion Questions

• Why might you want to collect social and economic information?

• Can you think of any other social/ economic information you might need?

•Where might you find social/economic information?

Speaker Notes

In this section present details on **social and economic information** or information about people.

• *Community Description* - Describe the community location and the historical and cultural setting. For example, if the community is a traditional village, discuss its history, how it came into being, the people that live there and their historical and cultural relationship to the larger region. This information will help with evaluating alternatives and potential effects of alternatives on the local residents.

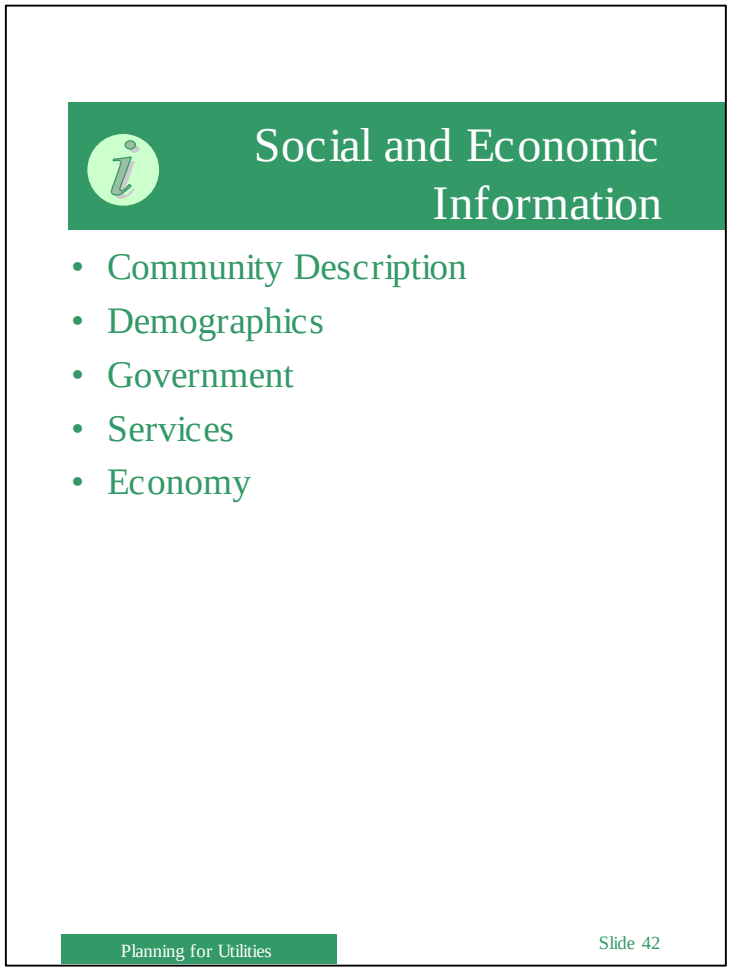
• *Demographics* - Prepare a demographic profile describing the community's population by age, race, gender, income, education level, marital status, etc. Profile information you think will be useful in preparing forecasts of future growth. Population information, along with information you gathered regarding housing (**community information**) will help you forecast future needs.

• *Government* - Describe the form of local government and its roles and responsibilities. Each community may differ - some will have a city government, others will have a tribal government. Include a description of the village and regional corporation and their role and responsibility in the community. This information is important when assessing community capacity to build, own, operate and maintain a utility.

• *Services* - Local health and social service agencies (state, federal or nonprofit) will have information on the past and current health risks and problems in the community. Contact the local clinic officials and health workers, the school administration, and local health corporation sanitarian/engineers.

• *Economy* - Collect information about local businesses - revenues generated, sales taxes generated, type of business, and whether or not the business has been successful. This information will support your forecasts of future growth and your analysis of community capacity.

Social and Economic Information



Community Description. This is a description of the community location and the historical and cultural setting. For example, if the community is a traditional village, discuss its history, how it came into being, the people that live there and their historical and cultural relationship to the larger region. This information will help with evaluating alternatives and potential effects of alternatives on the local residents.

Demographics. Prepare a demographic profile describing the community' s population by age, race, gender, income, education level, marital status, etc. Profile information will be useful in preparing forecasts of future growth. Typically, population information is relied upon when planning for future water and sewer. Population information, along with information you gathered regarding housing (**community information**) will help you forecast future needs.

Government. Describe the form of local government and its roles and responsibilities. Each community may differ - some will have a city government, others will have a tribal government. Include a description of the village and regional corporation and their role and responsibility in the community. This information is important when assessing community capacity to build, own, operate and maintain a utility.

Services. Local health and social service agencies (state, federal or nonprofit) will have information on the past and current health risks and problems in the community. Contact the local clinic officials and health workers, the school administration, and local health corporation sanitarian/engineers.

Economy. Collect information about local businesses such as the type of business, and whether or not the business has been successful or plans to expand. This information will support your forecasts of future growth and your analysis.

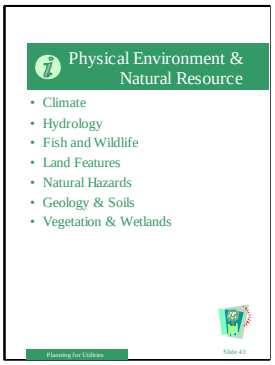
Instructor Tips

• Students need to understand that the master plan should sufficiently describe the existing physical environment and natural resources in the community. This information will be particularly important to state and federal regulatory (permitting) agencies.

• They should understand how this information will be used in the plan.

References

• SPG Appendix A, Pages A-8 and A-11



Ideas for Real Life Examples

• Display examples of physical information from an existing plan.

• Describe an instance where poor (good) physical information led to poor (good) decisions being made e.g. pipes laid in a flood prone area or eroding location.

Potential Discussion Questions

• Why might you want to collect physical environment information?

• Can you think of any other physical information you might need?

• Where might you find physical information?

Speaker Notes

In this section present details on **physical and natural resource information**

• *Climate* - Temperature, precipitation (rainfall, snowfall) and wind information will be used when preparing engineering analysis of the alternatives. Some system technology may be very climate-sensitive. What works in one region may not work in another.

• *Hydrology* - Surface hydrology and ground water information includes information on flooding (how often, when, depth, etc.), availability of year-round water supply, groundwater flow and levels, and proximity of rivers or streams.

• *Fish & Wildlife* - This is information on species and the current and historical location of breeding, rearing, and feeding habitat.

• *Land Features* - Important land features such as lakes, rivers, hills, and the coastline will affect the location of the alternatives.

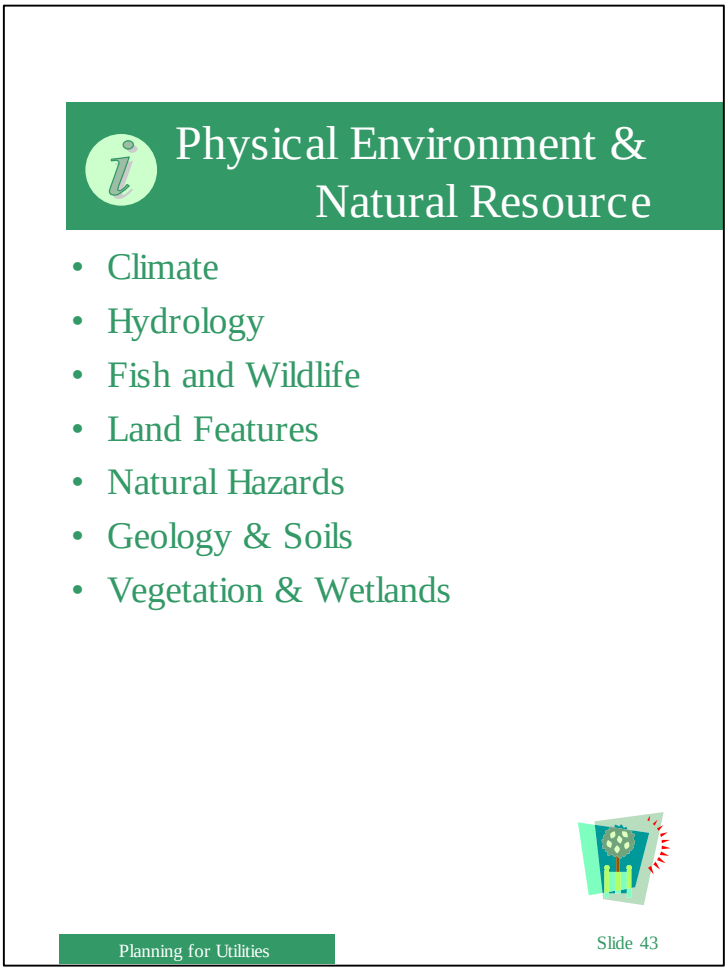
• *Natural Hazards* - Hazards like flooding and erosion can affect the location and long-term viability of the alternatives.

• *Geology & Soils* - Soil types, the presence of permafrost, earthquake susceptibility, and erosion may be engineering issues of concern when designing the set of alternatives.

• *Vegetation & Wetlands* - Plant types and location and wetland types and location need to be evaluated when considering land disturbance impacts from construction of a new system in the community.

The physical or natural resource information affects the engineering feasibility of a project and may also affect state and federal agency permitting step in the master plan. Like with the previous example, the level of detail about the physical conditions should be commensurate with the foreseen impacts of the project. For example, discussion about impacts to the physical environment may need to be more detailed if the community were converting from a honeybucket system to a piped system than if the project were replacing an existing piped system.

Physical and Natural Resource Information



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Lesson 3 Collecting Information

Instructor Tips

• Students need to understand that the master plan should sufficiently describe community conditions.

• What this means to the student is that they must understand how existing and future land use and land ownership information is used to develop alternatives.

• Remember that text highlighted in **green** represents potential test questions.

References

• SPG Appendix A, Pages A-8 and A-11

Ideas for Real Life Examples

• Have examples of the types of site control that might be necessary to implementation of the master plan.

• Have a copy of a comprehensive plan that identifies future land use and the location of infrastructure.

• Describe an instance where poor (good) ownership information led to poor (good) decisions being made e.g. pipes laid across land the community did not control.

Potential Discussion Questions

• Why might you want to collect community information?

• Can you think of any other community information you might need?

• Where might you find community information?

Speaker Notes

In this section present details on collecting **community information** .

• *Land Ownership* - Collect information on "site control" or who owns or has rights to ownership of the land in your community. This information will be important when locating potential water or sewer routes, treatment plants, or sewage lagoons. Contact the state and federal agencies, the local village corporation and regional corporation.

• *Planning for the Future*. This is land use information about existing and future locations for:

Residential Development - Collect data on the existing number of houses (single family, apartments, etc.) and their condition (e.g. hooked up to water/sewer). Contact the local housing authority about plans for future housing - what type, how many units, location. Use the local comprehensive plan.

Commercial Development - Contact all local businesses about their plans for the future - are they planning on expansion? Do they know of other new businesses that might be coming to town? The State should have information on business licenses in your community. ADOL typically has information on business operations (number of employees, revenue generated).

Institutional Development - Collect information on schools, government, health and social services, and public safety. Contact the local village or city council, nonprofits, and regional organizations (school district, state agencies) for information on existing development and plans to add new institutions (new schools, new post office, new jail, new clinic, etc.).

Industrial Development -Information for industrial development can also be collected from DCED and ADOL. In addition, contact regional corporations or local government for their plans regarding industrial projects (mining, oil and gas, etc.).

Transportation - Collect information on existing and future transportation projects from ADOT and from the local village comprehensive plan or local government.

Important Community Areas - Collect this information from local residents. Supplement with information from the state and federal agencies and the local nonprofits.

Community Information

Land Ownership - Collect information on "site control" or who owns or has rights to ownership of the land in your community. This information will be important when locating potential water or sewer routes, treatment plants, or sewage lagoons. Deeds, leases or easements are common forms of written authorization to use land

Planning for the Future. This is land use information about existing and future locations for:

Residential Development. Collect data on the existing number of houses (single family, apartments, etc.) and their condition (e.g. hooked up to water/sewer). Contact the local housing authority about plans for future housing - what type, how many units, location. Use the local comprehensive plan.

Commercial Development. Contact local businesses about their plans for the future - are they planning on expansion? Do they know of other new businesses that might be coming to town? The Alaska Department of Labor may have information on business operations (number of employees, revenue generated).

Institutional Development. Collect information on schools, government, health and social services, and public safety. Contact the local village or city council, nonprofits, and regional organizations (school district, state agencies) for information on existing development and plans to add new institutions (new schools, new post office, new jail, new clinic, etc.).

Industrial Development. Information for industrial development can also be collected from state and local agencies and Native corporations for their plans regarding industrial projects (fuel storage, power development mining, etc.).

*Transportation.*_Collect information on existing and future transportation projects from ADOT and from the local village comprehensive plan or local government.

Important Community Areas. Collect this information from local residents. Supplement with information from the state and federal agencies and the local nonprofits.

Lesson 3 Collecting Information

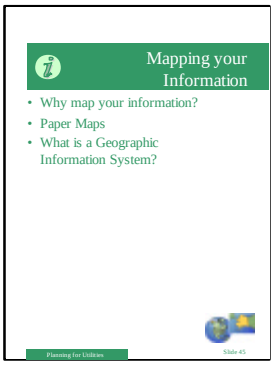
Instructor Tips

• Students should understand that much of the information they are collecting lends itself to being mapped.

• Students should learn how to use maps to document the information they will collect.

References

• SPG Page 12



Exercise 9

Ideas for Real Life Examples

• Have an example of a paper map and, if possible, GIS mapping. Depending on the location of the training, use the laptop to display examples of GIS mapping.

Potential Discussion Questions

• Ask if any students have done any mapping? What type? Where did they get the maps?

• What about GIS - do they know what it is and how it can be used?

Speaker Notes

In this section, discuss why information is **mapped**, different types of mapped information, and how it can be used in the master plan

• *Why Map Your Information*? Whether they be simple or highly technical, maps are an excellent way to depict information. Maps can be paper maps or developed using a computer and a Geographic Information System (GIS).

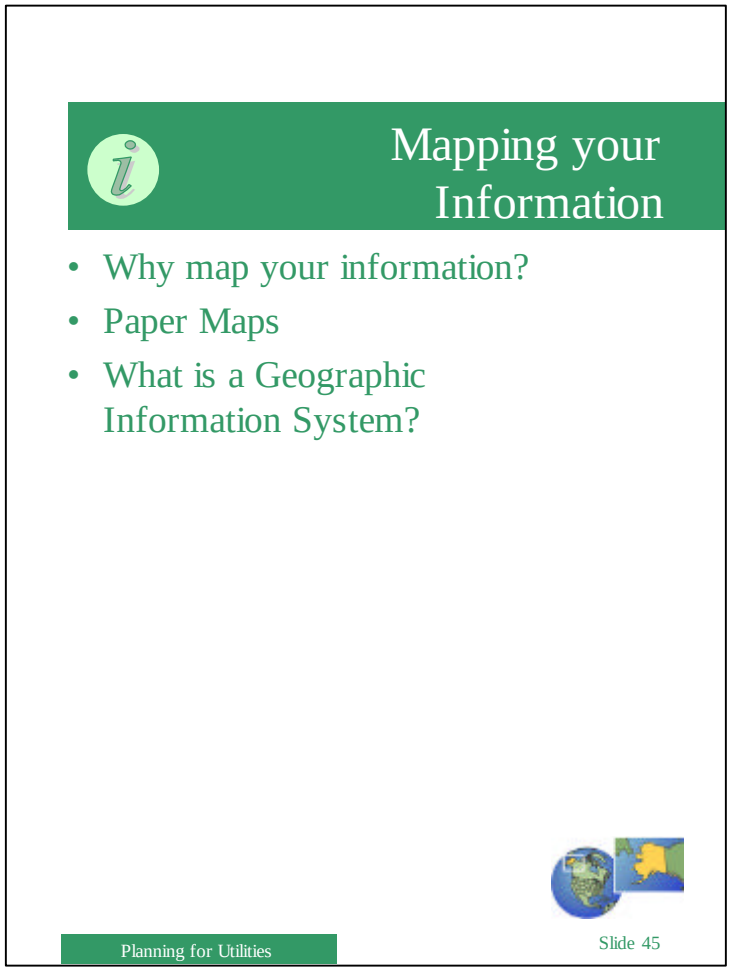
• *Paper Maps*. Published "paper maps" of the community can be used to show the location and extent of natural earth surface features and man-made objects. They provide a basic reference onto which other specialized information is placed. Paper maps might include cadastral maps which graphically define land ownership (e.g. tax map). Once you have the base map, take a sheet of clear plastic and lay it over the base map and draw the features you want to show such as flood areas, new housing, city hall, schools, the airport, roads, important subsistence use areas. This is a way to collect and present a variety of information.

• *Geographic Information System (GIS)*. This is a term which encompasses the entire field of computerized mapping which can perform a number of technical functions. GIS mapping can be used to describe what exists at a specific location using census tracts, latitude and longitude, and ZIP codes. GIS can track changes in specific locations over time and depict patterns. GIS can be used to model scenarios. For example, if 12 inches of rain fell in a certain watershed, you could predict at what hour and in which location flooding would occur. Having this type of mapping capability enhances your ability to communicate technical information in a way that many people will more easily understand.

Conduct Exercise 9 Mapping Information
Purpose of Exercise - this exercise demonstrates how information collected can be depicted on maps.

Mapping your information.

A good way to display the information you have gathered is to map it. There are different types of mapped information, and ways it can be used in the master plan



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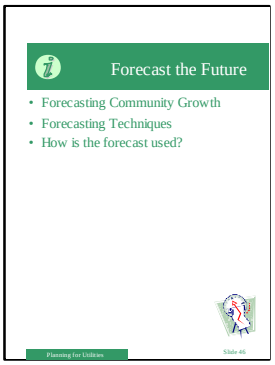
Geographic Information System (GIS). This is a term that encompasses the entire field of computerized mapping that can perform a number of technical functions. Geographic Information Systems (GIS) or computer mapping is a more technical way to make the same map layers. The computer can also keep track of all the information about things on your map: information on buildings (typical gallons of water use, for example), streams (peak flows, types of fish, spawning times).

Instructor Tips

• Remember this is an overview slide, additional detailed slides will follow.

References

• SPG Page 15 & 16



Overview Slide

Ideas for Real Life Examples

• Provide an example of forecasting techniques - simple ones that describe the difference between extrapolation and theoretical modeling.

• Describe an instance where poor (good) forecast information led to poor (good) decisions being made e.g. a project feature not being sized properly.

Potential Discussion Questions

• Ask students to share their experience, if any, with forecasts. Do they understand the difference between counting people that live in the community today and predicting trends into the future?

Speaker Notes

This slide introduces the concept of **forecasting the future**. Briefly review the three topics to be discussed in later slides. The topics are:

• *Forecasting Community Growth*. Before you can list alternative water and sewer systems that will work in your community, you need to decide how many people will live there in the years ahead. This is called **forecasting**.

• *Forecasting Techniques.* Many techniques have been developed to forecast community growth. This lesson will present an overview of three.

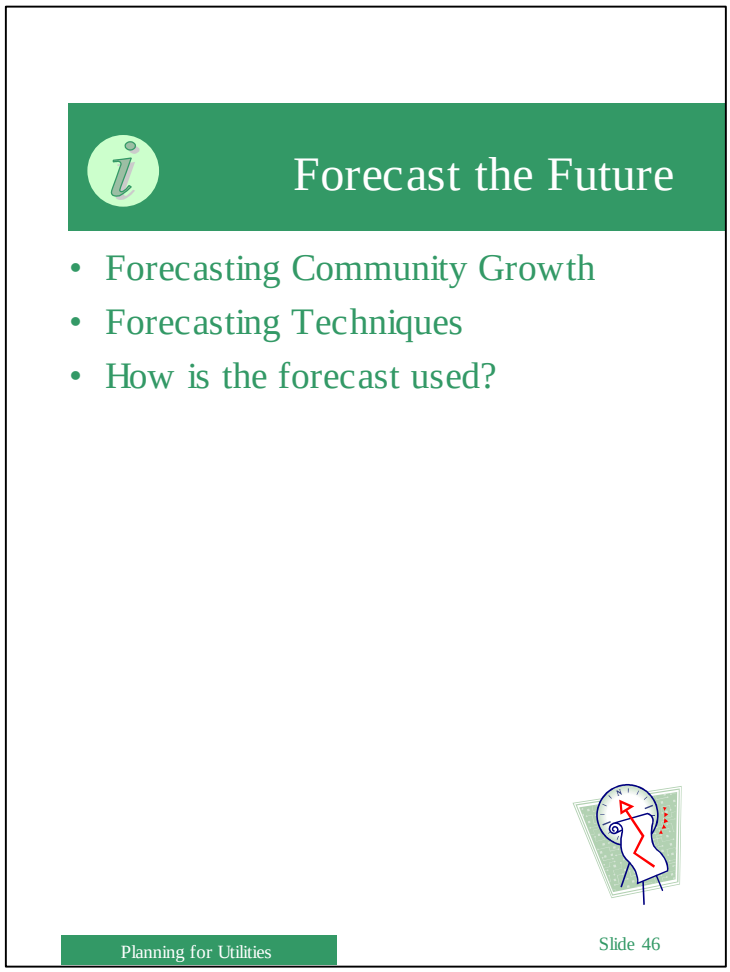
• *How is the forecast used?* The forecast is used to predict what may happen in the future. It is more a "picture" of what might happen. By knowing how many people the system will serve in the future will help determine how big to build it today. This lesson will present ways to use the forecast in developing alternatives.

Forecast the Future

Forecasting Community Growth. Do you have enough houses or do you need to plan for a new subdivision? How many houses must your water source serve in five years? Ten? Twenty? How big must your sewage lagoon be in 20 years? Before you can list alternative water and sewer systems that will work in your community, you need to decide how many people will live there in the years ahead. This is called **forecasting**. Forecasting predicts change in the future.

From population projections, you can estimate needs for housing, other land uses, and the type and size of the water and sewer system.

Forecasting Techniques. Many techniques have been developed to forecast community growth. This lesson will present an overview of three.



How is the forecast used? The forecast is used to predict what may happen in the future. By knowing how many people the system will serve in the future will help determine how big to build it today.

Communities are not necessarily at the mercy of past trends or future impacts that often appear beyond their control. Your community's goals can influence growth. For example, your community may state goals about how to use and sell land, how to make sure people have jobs, and how to build and take care of roads, boardwalks, docks, and airports. If the community decides not to sell any city land, the population may shrink. If it decides there is a goal to sell a lot of land for housing, the population could grow. The goals and objectives you have been developing will influence the forecast and can powerfully direct your plan.

This lesson will present ways to use the forecast in developing alternatives.

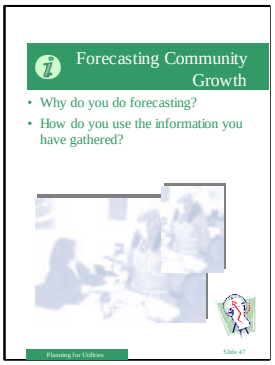
Instructor Tips

• While students may not end up actually preparing forecasts or trends analyses, emphasize that they should have a general understanding of forecasting terminology and applications.

• Students should understand the link between the information they have been gathering and using that information to look into the future.

References

• SPG Page 15 & 16



Ideas for Real Life Examples

• Display an actual population forecast from an adopted master plan. Explain where the data exists in the data collection section and then reappears as part of the demand forecast, and finally how the engineer turned that into design specifications like a wastewater flow calculation.

Potential Discussion Questions

• Ask if anyone has ever prepared forecasts for revenue sharing, grant applications, school projects, etc.

• Ask if any students have been involved with Census 2000 - review how that information is used to forecast change in a community.

Speaker Notes

In this section, present the details on **forecasting community growth**.

• *Why do you do forecasting?* Population size provides the basic yardstick for estimating a community's need for additional housing, an adequate water supply, sufficient sewer treatment capacity, and is also used to predict future overall land use needs.

• *How do you use the information you have gathered?* So far you have collected information on:

- the community's vision and its goals, and objectives for the future
- the community's existing and historical population

This information is used in developing growth scenarios or trends. For example, the vision, goals and objectives direct how land is to be used and developed and how quickly the community wants growth to occur. The population data tells you how much you have grown in the past and can help you understand how quickly you might or might not grow in the future.

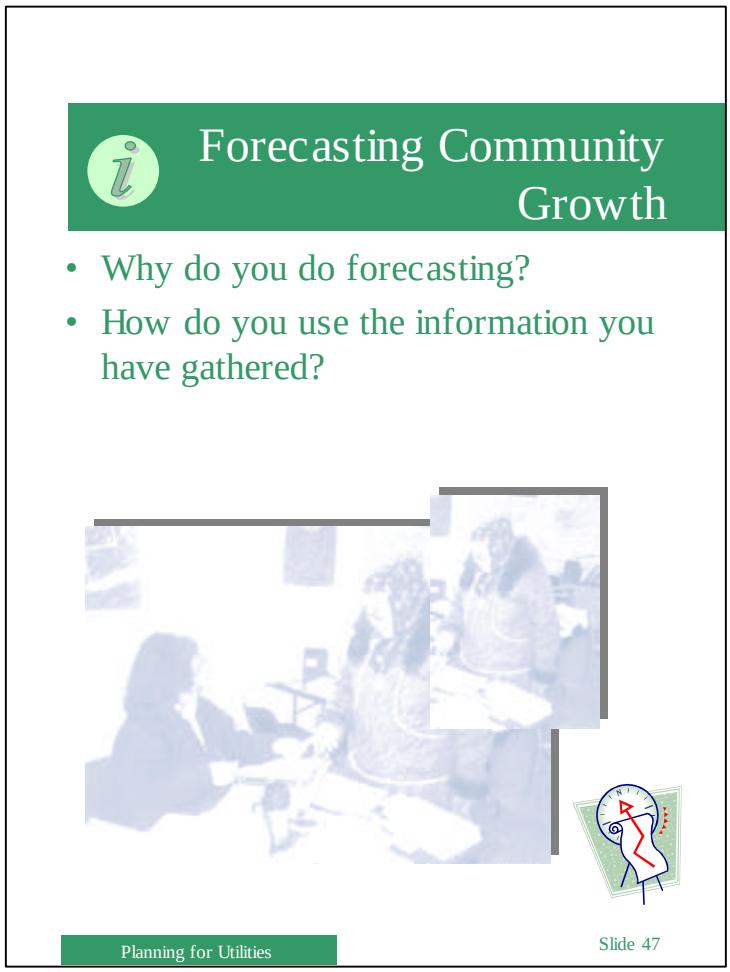
• *How is the forecast used in the master plan?* The social and economic information you gathered will help estimate future population. Once you have estimated the number of people who will live in your community in the future, you can direct engineers to figure out whether or not the existing water or sewer system can handle that future demand. Next the future population information is converted into demand estimates for water and sewer services and used to size facilities. This information will be presented in the master plan analysis of alternatives.

Forecasting Community Growth

Why do you do forecasting? Population size provides the basic yardstick for estimating a community' s need for additional housing, an adequate water supply, sufficient sewer treatment capacity, and is also used to predict future overall land use needs. A utility master plan is an overall plan for the utility for 5-10 years into the future. Forecasts are a key element of the plan.

How do you use the information you have gathered? So far you have collected information on:

- the community' s vision and its goals, and objectives for the future
- the community' s existing and historical population



This information is used in developing growth scenarios or trends. For example, the vision, goals and objectives direct how land is to be used and developed and how quickly the community wants growth to occur. The population data tells you how much you have grown in the past and can help you understand how quickly you might or might not grow in the future.

How is the forecast used in the master plan? The social and economic information you gathered will help estimate future population. Once you have estimated the number of people who will live in your community in the future, you can direct engineers to figure out whether or not the existing water or sewer system can handle that future demand. Next the future population information is converted into demand estimates for water and sewer services and used to size facilities. This information will be presented in the master plan analysis of alternatives.

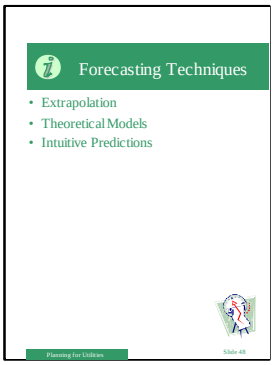
Instructor Tips

• Getting into the details of the different types of techniques is not as important as giving students the knowledge that there are different techniques ranging from elaborate and technical to simple and easy.

• Remember that text highlighted in **green** represents potential test questions.

References

• SPG Page 15 & 16



Ideas for Real Life Examples

• Provide an example of an instance where the forecast was way off. Was something overbuilt? Underbuilt?

Potential Discussion Questions

• Why might you use one technique instead of another? What might be the implications?

Speaker Notes

This is where you discuss the **three techniques** a community or consultant can use to project population growth.

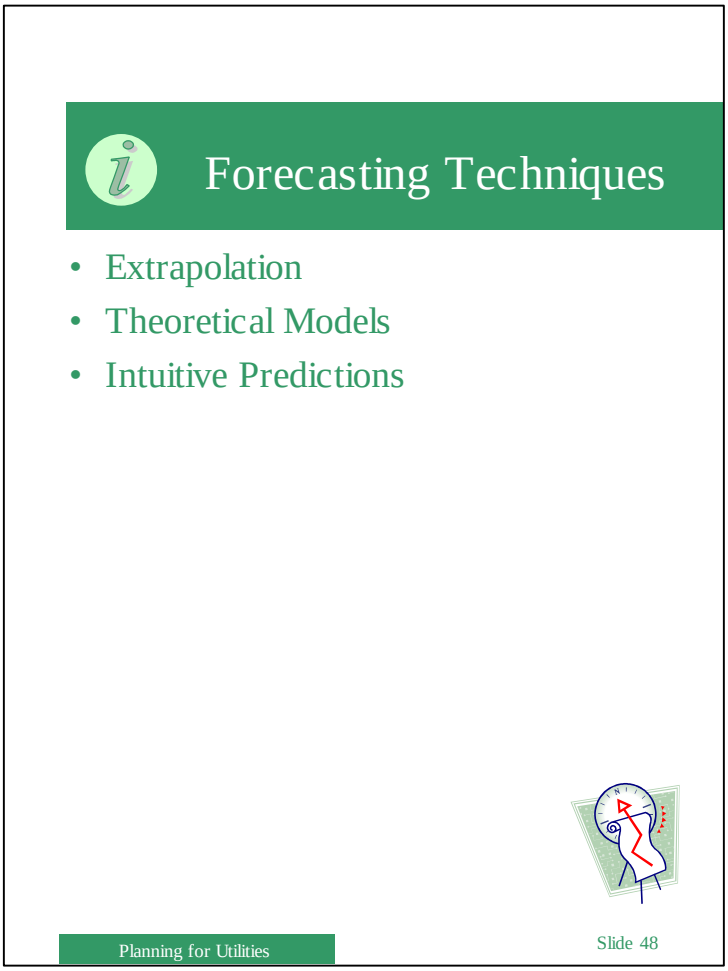
• *Extrapolation*. This technique means you extend past trends into the future and base future growth on past growth trends. Estimates of current population are actually a projection from the last census data to the current year. In view of this, projection methods can be similar to those used for estimating current population. Using published information from the Alaska Department of Labor you can analyze past population trends and make some assumptions about future trends. For instance, if between 1990 and 2000, the community's population grew at 3%, you could extrapolate that the community will grow another 3% between 2000 and 2010. There are some inherent problems with doing such an analysis - you may be basing a projection on information unique to the decade (oil prices were really high, growth statewide was booming) that may no longer apply to population trends for the next decade.

• *Theoretical Models*. Using information such as population and employment, complex theoretical models can be developed to predict growth trends in a community. Examples of theoretical models include cohort survival method, net migration and natural increase methods. Cohort survival is a detailed, very accurate short-term projection and can handle multiple variables. This method is useful for gathering information about the population composition in addition to population size and is often used when planning for things like trends in school enrollment. ISER uses a theoretical model.

• *Intuitive Predictions*. These types of predictions rely on "professional" judgement about what is likely to happen in the future. Interviewing community leaders is a technique for helping get information useful intuitive predictions.

Forecasting Techniques

There are basically **three techniques** a community or consultant can use to project population growth.



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Intuitive Predictions. These types of predictions rely on experienced or knowledgeable judgement about what is likely to happen in the future. Interviewing community leaders is a technique for helping get information useful for intuitive predictions.

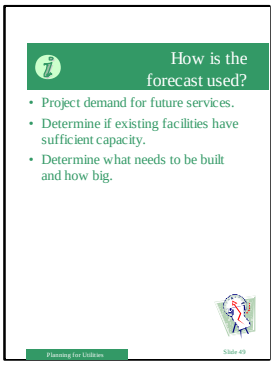
Lesson 3 Collecting Information

Instructor Tips

• Describe the link between collecting information and using it to predict how much and how quickly the community will grow during the planning period. And then how that link carries forward into determining how much and how big you need to design and build the capital facilities.

References

• SPG Page 15 & 16



Ideas for Real Life Examples

• Show some analysis from a master plan that has converted population projections into future water demand or wastewater flow.

Potential Discussion Questions

• What do you think the implications of a poor forecast are?

• Does anyone know of a project that does not get used enough (too much), prompting you to say "why did they build that so big (so small)?" Tell us about it?

Speaker Notes

In this section present information on **how the forecast is used** in the master planning process.

• *To project demand for future services*. Once you have estimated the number of people who will live in your community, you can predict the number of households requiring water and/or sewer service. This projected demand can then be used by the engineers.

• *To determine if existing facilities have sufficient capacities*. For example, you can direct engineers to take the projected demand and figure out if the existing water or sewer system can handle it.

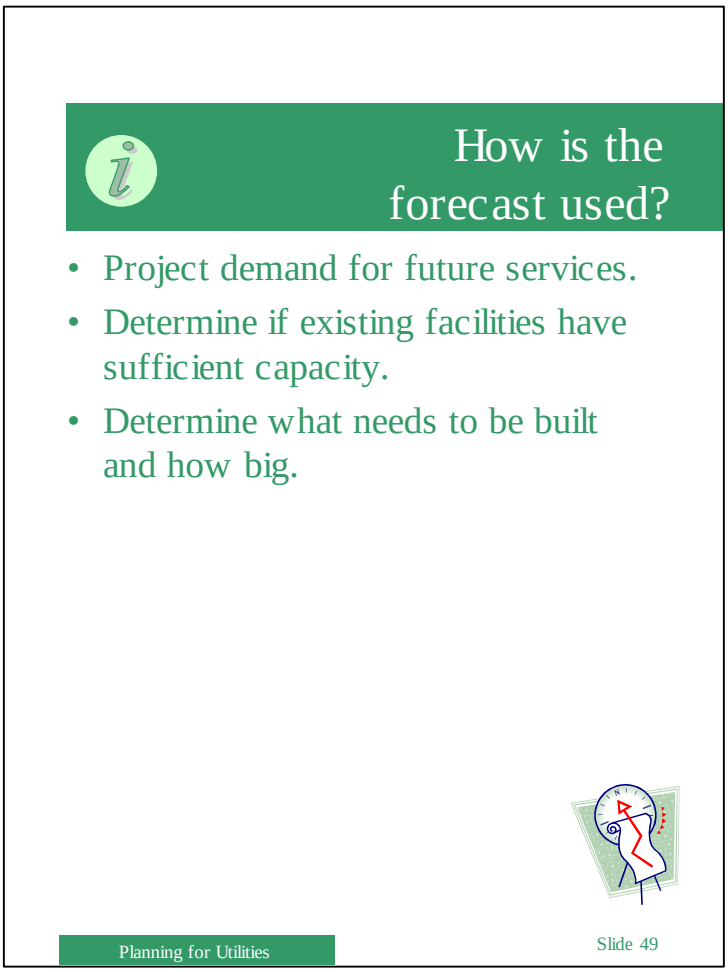
• *To determine what needs to be built and how big to build it*. The analyses of the demand and capacity form the basis for determining what needs to be built and how big to build it. You can now direct the engineer to take the projected demand and the analysis of existing capacity and come up with a range of choices or alternatives for you to review.

How is the forecast used?

To project demand for future services. Once you have estimated the number of people who will live in your community, you can predict the number of households requiring water and/or sewer service. The projected demand for service can then be used by the engineers.

To determine if existing facilities have sufficient capacities. For example, you can direct engineers to take the projected demand and figure out if the existing water or sewer system can handle it.

To determine what needs to be built and how big to build it. The analyses of the demand and capacity form the basis for determining what needs to be built and how big to build it. You can now direct the engineer to take the projected demand and the analysis of existing capacity and come up with a range of choices or alternatives for you to review.



Lesson 4 Developing Alternatives

Goal of this Lesson

To help students learn how to create sanitation plan alternatives.

Educational Objectives

After completing this lesson participants should be able to -

• create ideas and form alternatives

• create alternatives that provide useful comparisons in technologies or locations

• screen or eliminate alternatives that are infeasible or unrealistic.

Schedule

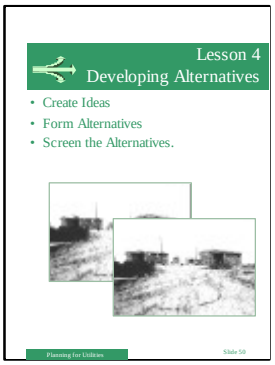
Lesson: 4.5 hours

Length:

- Developing Alternatives 3 hours
- Lesson Worksheet .5 hours.
- Exercises 45 minutes

Equipment/Supplies:

- Overhead projector
- Flip chart pad, easel and pens



Overview Slide

Speaker Notes

This is an overview slide that introduces the planning step called **Developing Alternatives** or Identifying Choices. You will briefly review the three topics to be covered in this section:

•*How to Create Ideas*

•*How to Form Alternatives*

•*How to Narrow down the number of Alternatives*

Before starting this section with students, review the successful completion of Steps 1 and 2. This means revisiting a couple of key questions like:

• Are leaders and residents still behind the project? Is it time to check back with the community?

• Have you formed a work group and can the participants work together and agree on important decisions?

• Have you collected all the existing background information you need, completed any new studies you need, and organized the information in a way you can understand and use when forming alternatives?

• And lastly, have you use the information to prepare forecasts of population, converted this information into demand estimates for water and sewer services, and figured out if the existing system can handle the future demand?

If students can answer yes to the these questions, they are ready to now move into forming alternatives.

Lesson 4 Developing Alternatives

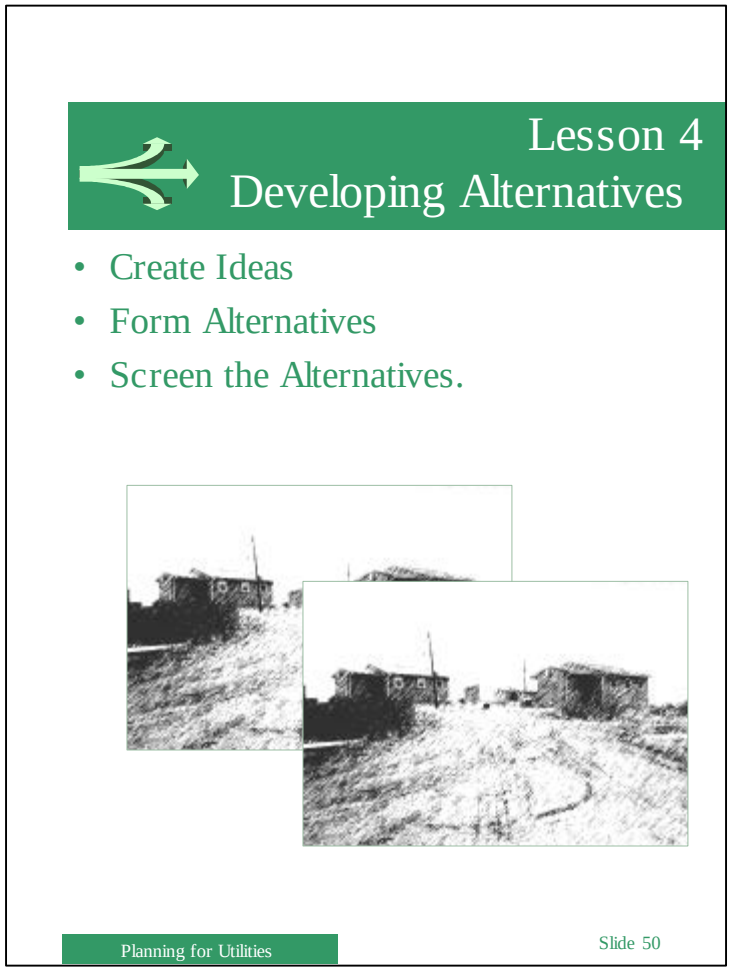
Lesson 4: 4.5 hours

Length:
- Developing Alternatives 3 hours
- Lesson Worksheet .5 hours.
- Exercises 45 minutes

Learning Objectives To learn how to create sanitation plan alternatives.

After completing this lesson participants should be able to:
- create ideas and form alternatives
- create alternatives that provide useful comparisons in technologies or locations
- screen or eliminate alternatives that are infeasible or unrealistic.

There are the three topics to be covered in this section:
- *How to Create Ideas*
- *How to Form Alternatives*
- *How to Narrow down the number of Alternatives*



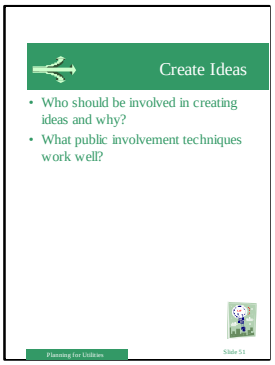
Instructor Tips

• Explain the link between all previous steps. Alternatives that are developed should try to solve problems, support community goals, satisfy demand, and fit within the constraints discovered during the background studies.

•Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 17 - 21
- SPG Appendix A
- SPG Technical Appendix A



Exercise 10

Lesson 4 Developing Alternatives

Ideas for Real Life Examples

• Think of a situation where the best or finally approved alternative was not originally identified. Why was it not?

• Think of a situation where a good idea came from a seemingly weak suggestion.

Potential Discussion Questions

• Who do you think should be involved in creating ideas?

• How would you involve the public in this step?

• Why do you need community support for the final alternative?

Speaker Notes

In this section present details on **Creating Ideas** and some applicable public involvement techniques**.**

•*Who should be involved in creating ideas and why?* Point out that the work group should lead the effort in this important first task of identifying choices and should come up with a large number of varying ideas. Emphasize the need to record or write down all ideas for the public record.

•*What public involvement techniques work well for creating ideas?*

• *Brainstorming* - set up a session and invite the work group and stakeholders. Technique encourages free-flow of ideas; no judgements; everyone gets a chance to share their ideas.

• *Informal small group discussion* - a flexible way to informally gather information. If you are the planning coordinator or a member of the work group, pay attention while at the post office, the village store, the school play. Write down all ideas you hear discussed.

• *Structured problem solving* - this quick-paced technique concentrates on specific problems and potential solutions. Using a skilled facilitator, bring out all points of view from concerned community members.

• *Intensive interviewing* - talk to key people in the community who may not otherwise come to organized meetings.

• *Visual presentations* - some people learn by hearing, others by seeing, and still others by doing. Recognize the different styles in your community and honor them when deciding on the appropriate public involvement technique for **creating ideas.**

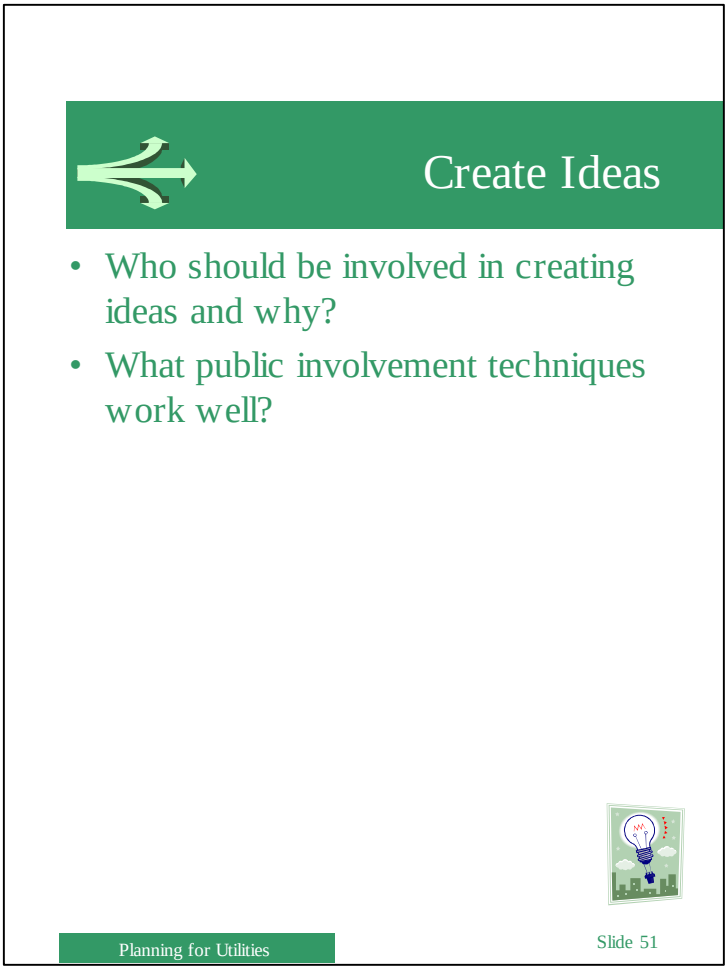
• *Facilitation* - organizing, controlling, and running meetings.

Conduct Exercise 10 Create Ideas. Purpose of Exercise - to strengthen student skills at brainstorming and working with the public on generating ideas. To reinforce the need to welcome all ideas at this step in the process.

Create Ideas

The first task in developing water and sewer system alternatives is to generate ideas. The work group should use the public participation activities outlined in this manual and in the Sanitation Planning Guidebook (along with Technical Appendices) to come up with as many water and sewer system upgrade ideas as possible. It is wise to list as many options as possible because:

- You are less likely to overlook the best ideas.
- By considering everyone' s ideas, you will gain community support for the final alternatives selected.
- Good ideas may be generated out of seemingly weak suggestions.



Who should be involved in creating ideas and why? The work group should lead the effort in this important first task of identifying choices and should come up with a large number of varying ideas.

What public involvement techniques work well for creating ideas?

- Brainstorming
- Informal small group discussion
- Structured problem solving
- Intensive interviewing
- Visual presentations
- Facilitation

Instructor Tips

• This step involves taking the brainstormed ideas and putting them together into alternatives.

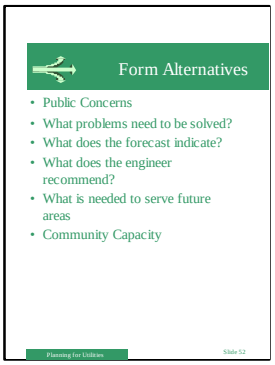
•An attempt should be made to form alternatives that satisfy the bullets below.

• Emphasize that several ideas can be joined together to form an alternative.

• Remember that text highlighted in **green** represents potential test questions.

References

• SPG Page 21-22



Ideas for Real Life Examples

• Relate an example where an initial idea was developed into a full fledged alternative that was selected and built.

Potential Discussion Questions

• Can you think of other things to keep in mind when creating alternatives?

Speaker Notes

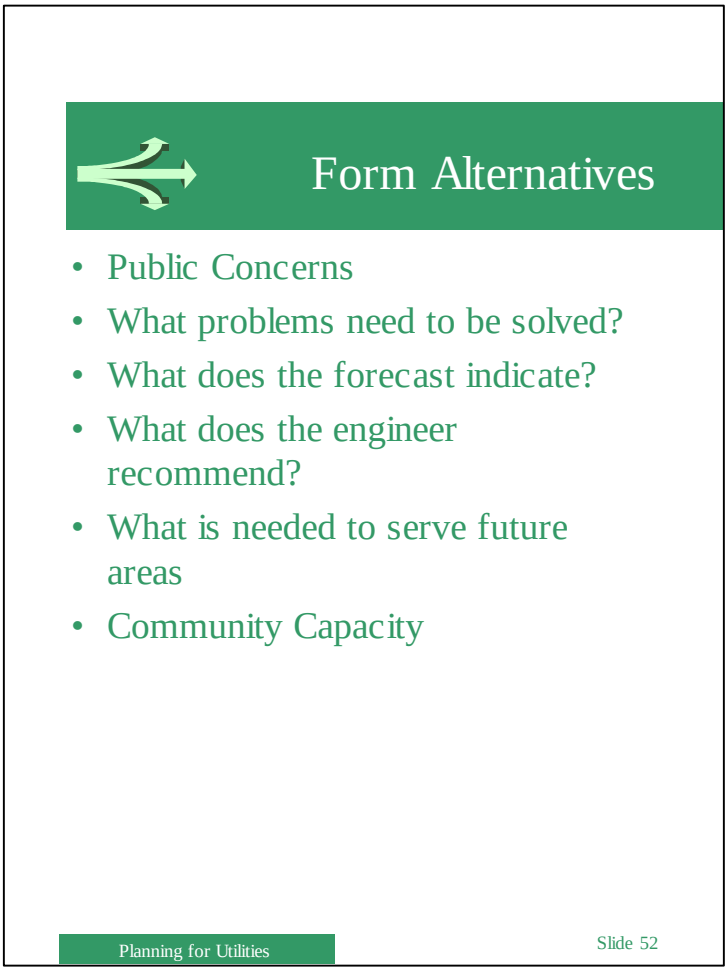
In this section discuss the key criteria for **Forming Alternatives**. Be sure to point out to students that once you have created a list of ideas, the work group should briefly consider each idea and make a shorter list of alternatives the community can consider in more detail.

Note that in the previous **Create Ideas** step, the work group was charged with producing a long list of creative ideas that could be narrowed into a shorter list of alternatives.

Now the work group should keep the following in mind when forming alternatives:

- *public concerns and desires* - are the alternatives acceptable to the community?
- *problems identified that needed to be solved* - do each of the alternatives solve the problem?
- *forecasts* - how much demand is projected?
- *engineering recommendations* - do the alternatives meet the engineering criteria recommended?
- *existing and future use for land* - what services are needed to serve projected land use needs?
- *community capacity* - is the community able to keep each alternative running?

Form Alternatives



Once you have created a list of ideas, the work group should briefly consider each idea and make a shorter list of alternatives the community can consider in more detail. In the previous **Create Ideas** step, the work group was charged with producing a long list of creative ideas that could be narrowed into a shorter list of alternatives.

Now the work group should keep the following in mind when forming alternatives:

- *Public Concerns and Desires.* Are the alternatives acceptable to the community?
- *Problems Identified That Need to be Solved.* Do each of the alternatives solve the problem?
- *Forecasts.* How much demand is projected?
- *Engineering Recommendations.* Do the alternatives meet the engineering criteria recommended?
- *Existing and Future Use for Land.* What services are needed to serve projected land use needs?
- *Community Capacity.* Is the community able to keep each alternative running?

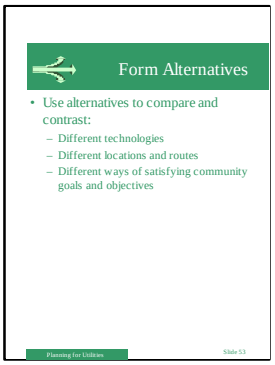
To shorten the list of alternatives, the work group should organize all the ideas. They could group similar ideas, geographical areas, most popular, or least popular ideas, etc. If you want to know the cost differences between a pipe system and a haul system, isolate these two types in two alternatives. If you want to know the costs and impacts of expanding your community eastward as opposed to northward, compare those areas in two alternatives.

Instructor Tips

• Point out that the ultimately selected alternative will not necessarily be put together all at once. You can selectively put different ideas or project features together to test those ideas or locations for technical or political feasibility.

References

- SPG Page 19-20
- SPG Technical Appendix B.



Ideas for Real Life Examples

• Relay a story where one alternative was put together solely to test a certain type of technology (for cost or feasibility) or location, or etc. etc...

Potential Discussion Questions

• Why might you create alternatives with different types of technology?

•Why might you create alternatives with different locations for the improvements?

Speaker Notes

In this section discuss how you can specifically structure your set of alternatives in order to **compare and contrast** ideas and why this is an important step to complete before beginning to refine or limit the number/range of alternatives.

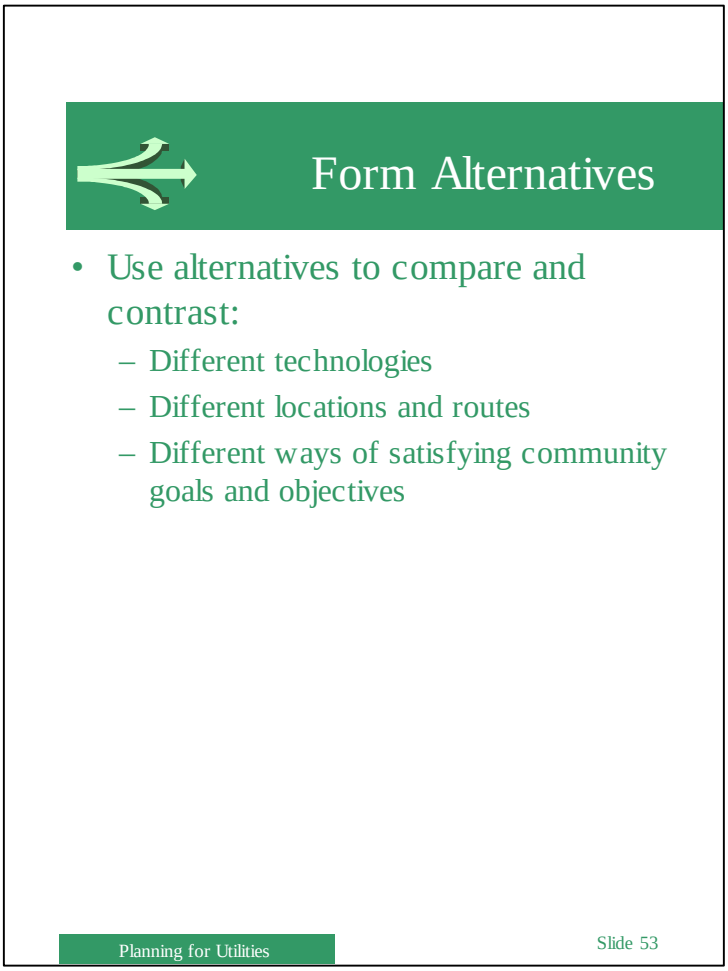
• *Different technologies* - alternatives can combine different types of technology together such as flush/haul and pipes or specifically separate different technologies to compare and contrast things like cost or feasibility. Check with other communities to see what technology worked for them. Find out if they came up with a combined technology or a new technology.

• *Different locations and routes* - an alternative may focus within one type of technology but explore a range of locations such as a piped system with a variety of routes. In other words, there may be more than one way to route the system and you may want to test several route to see which has lower costs or impacts. Review the community's goals and objectives for future land use (housing, important cultural areas, subsistence use areas, roads, facilities) and compare routings of the system with overall community development desires.

•*Different ways of satisfying community goals and objectives* - some alternatives may meet the community's goals and objectives better than other alternatives. "One size does not fit all." In other words, form alternatives that fit with community goals and objectives. You might specifically structure alternatives to see which ideas might fit together better from the perspective of what the community wants.

Note: The work group may need to consider ideas that would not work in the community under any conditions. The group should keep those ideas separate and address them as a whole under Step 4, Selecting the Preferred Alternative, in the planning process.

Form Alternatives (continued)



Structure your set of alternatives in order to **compare and contrast** ideas. This is an important step to complete before beginning to refine or limit the number/range of alternatives.

Different Technologies. Alternatives can combine different types of technology together such as flush/haul and pipes or specifically separate different technologies to compare and contrast things like cost or feasibility. Check with other communities to see what technology worked for them. Find out if they came up with a combined technology or a new technology.

Different Locations and Routes An alternative may focus within one type of technology but explore a range of locations such as a piped system with a variety of routes. In other words, there may be more than one way to route the system and you may want to test several routes to see which has lower costs or impacts. Review the community' s goals and objectives for future land use (housing, important cultural areas, subsistence use areas, roads, facilities) and compare routings of the system with overall community development desires.

Different Ways of Satisfying Community Goals and Objectives. Some alternatives may meet the community' s goals and objectives better than other alternatives. "One size does not fit all." In other words, form alternatives that fit with community goals and objectives. You might specifically structure alternatives to see which ideas might fit together better from the perspective of what the community wants.

Instructor Tips

• This step is sometimes called "screening."

• Point out that screening is sometimes an explicit step, sometimes it just happens while the alternatives are being formed.

• Screening takes place before a more detailed examination of all the alternatives.

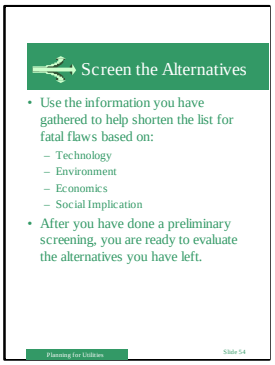
• It is not required that you screen, but it can help save money when faced with refining information on a long list of alternatives

Ideas for Real Life Examples

• Discuss a plan where alternatives were screened out before given full evaluation. Why were they dropped. Warn pitfalls of dropping alternatives too early.

References

• SPG Page 21



Exercise 11

Potential Discussion Questions

• Why might the work group want keep an alternative on the list even though they know it will never be selected?

•Why might you want to narrow the range of choices? What are the benefits? What are the potential pitfalls?

Speaker Notes

In this section discuss how to **narrow the range of alternatives based on what you know.** Discuss how the work group should take the longer list of alternatives and narrow the list down to a manageable number. This narrowing down is achieved by grouping and eliminating alternatives that seem unrealistic or infeasible.

Discuss how in many cases, the broader the community's goals and objectives, the broader the range of alternatives that might result. If, however, the community's goals are narrowly defined in order to solve specific problems, the more likely the community will come up with a narrower range of alternatives. Remind students to use what they know about the community's goals, the existing conditions, and the forecasts for demand in order to shorten the list. The work group also considers technology, the environment, economics, and social implications. For example:

• *Technology* - if the technology is not appropriate to the community and the community lacks the capacity to build, operate and maintain it, perhaps the alternative should be eliminated.

• *Environment* - if the impacts to the environment are so serious that the alternative cannot be approved by the agencies (i.e. permits will not be issued), perhaps it should be removed from the list as infeasible.

• *Economics* - what are the engineering costs? Is there funding to build it AND operate and maintain it? Can the community afford the alternative that has been formed?

• *Social Implications* - will the alternative conflict with community functions and lifestyles?

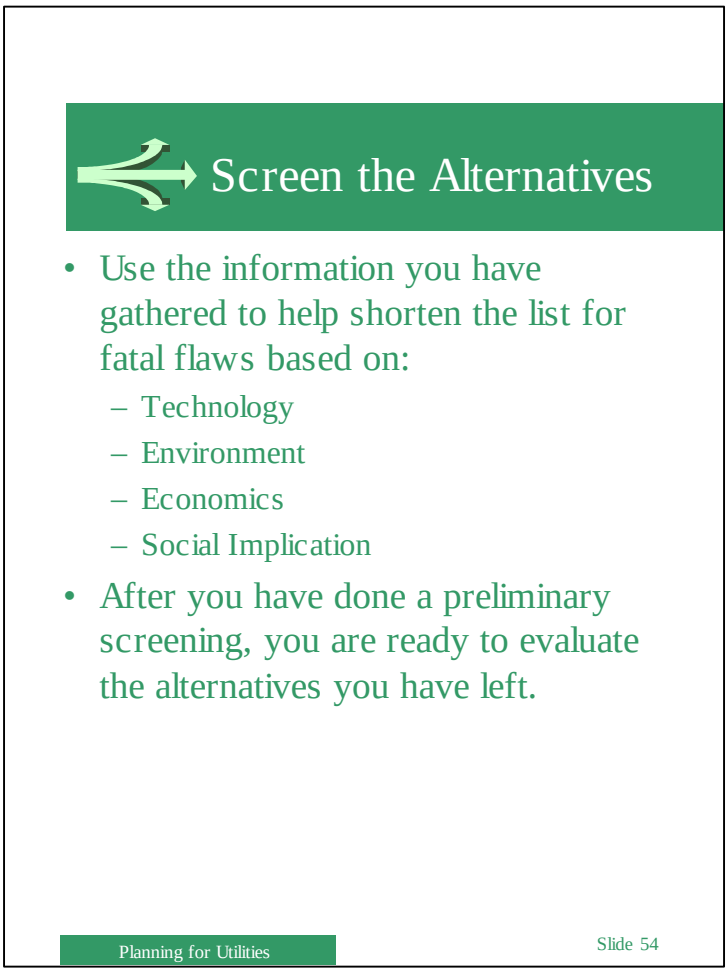
Once the work group has narrowed down the range of alternatives, you are ready to move onto the evaluation step.

Conduct Exercise 11 Developing Alternatives

Purpose of Exercise - to learn techniques for converting a long list of ideas into a manageable number of alternatives.

Screen the Alternatives

This section describes ways to **narrow the range of alternatives** based on what you know. This is sometimes called "fatal flaw analysis." Essentially if there is a major problem with an alternative you should consider dropping that alternative from further consideration.



During this step, the work group takes the longer list of alternatives and narrows the list down to a manageable number. This narrowing down is achieved by grouping and eliminating alternatives that seem unrealistic or infeasible. The work group should consider technology, the environment, economics, and social implications. For example:

Technology. If the technology is not appropriate to the community or the community lacks the capacity to build, operate and maintain it, perhaps the alternative should be eliminated.

Environment. If the impacts to the environment are so serious that the alternative cannot be approved by the agencies (i.e. permits will not be issued), perhaps it should be removed from the list as infeasible.

Economics. What are the engineering costs? Is there funding to build it AND operate and maintain it? Can the community afford the alternative that has been formed?

Social Implications. Will the alternative conflict with community functions and lifestyles?

After you have organized the ideas into groups and have considered which would work best, you should have a range alternatives. These are the alternatives for your plan. You are ready to move onto the evaluation step.

Goal of this Lesson

To help students learn how to evaluate a set of alternatives. To learn how to organize the alternatives so they can be evaluated efficiently and effectively.

Educational Objectives

After completing this lesson students should be able to

• evaluate a range of alternatives using the criteria specified in the lesson

• effectively organize and present choices for consideration

• understand the terms "evaluate" and "criteria"

• be able to identify several criteria.

Schedule

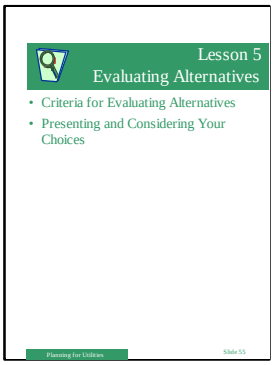
Lesson 4 hours

Length:

- Evaluating Alternatives 3 hours.
- Lesson Worksheet .5 hours.
- Exercise .5 hours

Equipment/Supplies:

- Flip Chart
- Overhead Projector



Overview Slide

Lesson 5 Evaluating Alternatives

Speaker Notes

This is an overview slide on **evaluating alternatives** and how to effectively present and consider the range of choices.

Review with students that alternatives are the "heart" of the master plan.

Alternatives are the range of options and can be rejected as infeasible or accepted as potentially feasible.

Evaluation of alternatives should be governed by criteria - you objectively consider a reasonable range of options that could solve the identified problem and meet the community's goals and objectives. This means that the criteria you use to evaluate the alternative should relate back to the community's statement of the problem, its goals and objectives, forecasted demand for services, and the information about the community (e.g. the socio-economic, physical conditions).

This section will review in detail the following:

- *Criteria for Evaluating Alternatives*
- *Presenting and Considering Your Choices*

Lesson 5 Evaluating Alternatives

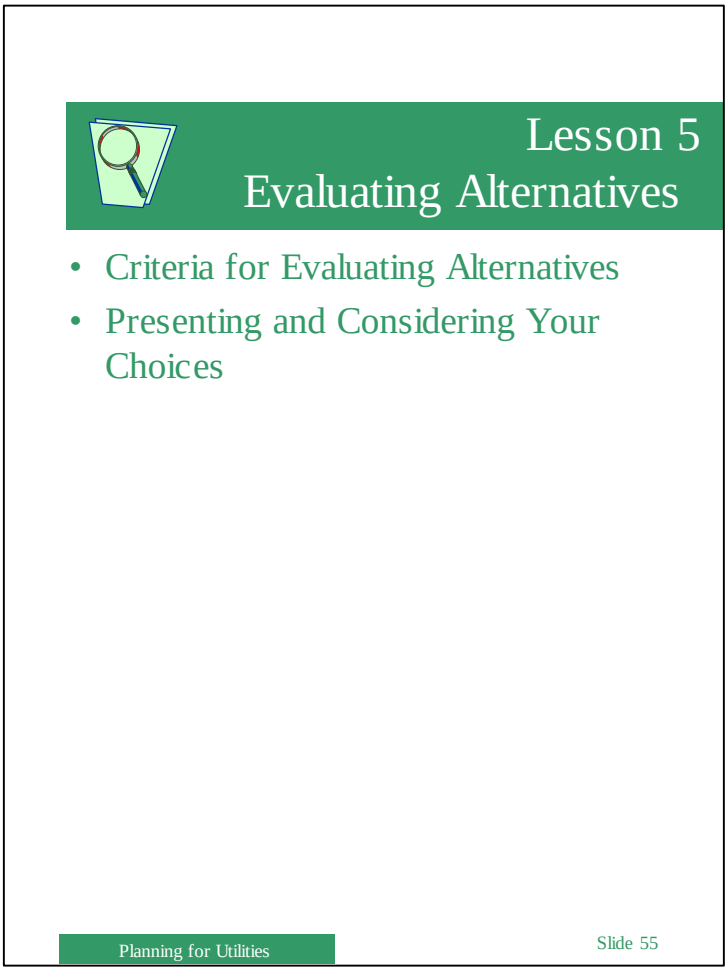
Lesson 5: 4 hours

Length:
- Evaluating Alternatives 3 hours.
- Lesson Worksheet .5 hours.
- Exercise .5 hours

This section presents how to evaluate alternatives and how to effectively present and consider the range of choices.

- *Criteria for Evaluating Alternatives*

- *Presenting and Considering Your Choices*



Learning Objectives

To learn how to evaluate a set of alternatives. To learn how to organize the alternatives so they can be evaluated efficiently and effectively.

After completing this lesson you should be able to
- evaluate a range of alternatives using the criteria specified in the lesson
- effectively organize and present choices for consideration
- understand the terms “evaluate” and “criteria”
- be able to identify several criteria.

Evaluation of alternatives should be governed by criteria - you objectively consider a range of options that could solve the identified problem and meet the community’ s goals and objectives. This means that the criteria you use to evaluate the alternative should relate back to the community’ s statement of the problem, its goals and objectives, forecasted demand for services, and the information about the community (e.g. the socio-economic, physical conditions).

Instructor Tips

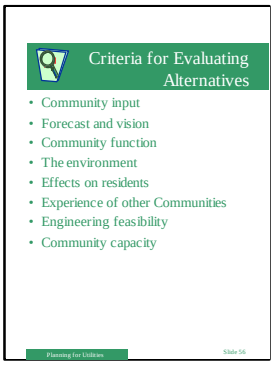
• Don't spend too much time on this slide as additional slides follow.

• Point out how information collected earlier can now be used to help provide information about the pros and cons of the alternatives.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 22-24
- SPG Technical Appendix B



Overview Slide

Ideas for Real Life Examples

• Show an example of how criteria have been applied to reach a decision on a project on which you worked.

Potential Discussion Questions

• Can you think of any other criteria to evaluate alternatives?

Lesson 5 Evaluating Alternatives

Speaker Notes

This slide is an overview slide that introduces the section on the criteria used to **evaluate alternatives**.

Go back to earlier discussion of public involvement and point out that the work group, the engineer, and stakeholders in the community are to be involved in evaluating alternatives.

In addition to the list of criteria to be presented in this lesson, there may be different or additional criteria specific to the project that should also be considered.

The purpose of the criteria is to ensure that the evaluation is focused, objective, and thorough and results in an alternative that works best for the community.

Suggested criteria for evaluating alternatives include:

- *community input*
- *forecast and vision*
- *community function*
- *the environment*
- *effects on residents*
- *experience of other communities*
- *engineering feasibility*
- *community capacity*

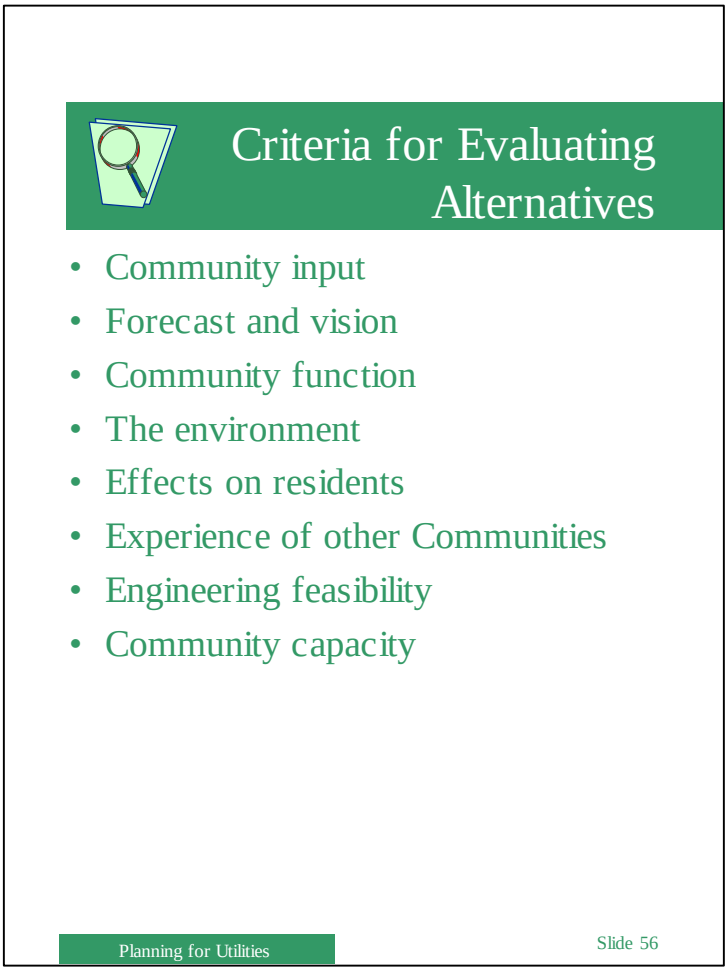
Not all criteria have to be used; refine them, or think of others that are more applicable to your situation.

Criteria for Evaluating Alternatives

This section presents the criteria used to **evaluate alternatives**.

The work group, the engineer, and stakeholders in the community must be involved in evaluating alternatives. In addition to the list of criteria to be presented in this lesson, there may be different or additional criteria specific to the project that should also be considered. For example, you may want to have an engineer work with each alternative to give more detail about how it would work in your community.

The purpose of the criteria is to ensure that the evaluation is focused, objective, and thorough and results in an alternative that works best for the community.



Suggested criteria for evaluating alternatives include:

- *community input*
- *forecast and vision*
- *community function*
- *the environment*
- *effects on residents*
- *experience of other communities*
- *engineering feasibility*
- *community capacity*

Not all criteria have to be used; refine them, or think of others that are more applicable to your situation. Different factors are important to different communities, and more or different information may be required for your community to make a decision on your preferred alternative.

Instructor Tips

• This slide presents the first criterion for evaluating alternatives. Stimulate discussion about the value of community input and how it helps "tailor" the master plan to the individual community.

• Remember that text highlighted in **green** represents potential test questions.

References

• SPG Page 22

Ideas for Real Life Examples

• Discuss a scenario where public input was used and when it was not - were there differences in the outcome or how people felt about the project, etc?

Potential Discussion Questions

• Why do you think you should get community input on the alternatives? What could happen if you don't?

Speaker Notes

Present the criterion **community input**. Review the following key points:

• *Ask the public again*. Go back to the community and ask them if the proposed range of alternatives address their concerns. Ask them if the criteria used to evaluate the alternatives make sense.

• *Review the community vision, goals and objectives.* Do the alternatives meet the goals and objectives for the future that were spelled out earlier in the planning process? Revisit any changes now.

• *Does the alternative do what the community wants?* Does the technology proposed fit with the local lifestyle?

• *Does it satisfy community concerns?* Does it address the problems the community identified earlier in the planning process? Do the alternatives avoid the important areas like berry-picking areas, graveyards, historic buildings?

• *How do we get community input at this stage*? Community input can be gathered using a couple of different public involvement techniques. You could begin by preparing a flyer describing each of the various alternatives under consideration. Distribute the flyer to every boxholder in town. Post it at the city/village offices, clinic, school, post office, store, community hall, etc.

Follow up with a public meeting where the engineers can present the alternatives and the advantages and disadvantages of each. The work group should participate in the meeting and share their observations on each of the alternatives. Open the meeting up for facilitated discussion - using a round robin approach, ask for comments on the alternatives. Record comments, concerns, suggestions.

Note: This information can then be entered in the comparison chart by the work group (to be discussed later in this lesson).

Community Input

Does the alternative do what the community wanted (look back at your goals from Step 1)? For example, does the alternative avoid areas that are important to the community?

Ask the public again. Go back to the community and ask them if the proposed range of alternatives address their concerns. Ask them if the criteria used to evaluate the alternatives make sense.

Review the community vision, goals and objectives. Do the alternatives meet the goals and objectives for the future spelled out earlier in the planning process? Revisit any changes now.

Does the alternative do what the community wants? Does the technology proposed fit with the local lifestyle?

Does it satisfy community concerns? Does it address the problems the community identified earlier in the planning process? Do the alternatives avoid the important areas like berry-picking areas, graveyards, and historic buildings?

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Follow up with a public meeting where the engineers can present the alternatives and the advantages and disadvantages of each. The work group should participate in the meeting and share their observations on each of the alternatives. Open the meeting up for facilitated discussion - using a round robin approach, ask for comments on the alternatives. Record comments, concerns, suggestions.

Instructor Tips

• This criterion is meant to gauge how well the alternative fairs compared to future conditions in the community.

References

- SPG Page 22
- SPG Technical Appendix B

Ideas for Real Life Examples

• Provide an example where an alternative was eliminated from consideration because it did not have sufficient capacity.

Potential Discussion Questions

• What will happen if the alternative is not sized properly compared to the forecast?

• What could happen if the alternative does not serve the community's other future plans well.

Speaker Notes

Present the criterion **forecasts and vision**. Recap that in Step 2 of the planning process, forecasts were developed for the future based on population growth estimates and the community vision for growth (e.g. slow, moderate, fast).

• *Review forecasts.* Now is the time to see if the forecasts still make sense. Has anything changed to lead you to believe that the projected growth is too fast, too slow?

• *Review community vision for where, when, and how growth should occur*. This is important when evaluating alternatives. If the community has adjusted its vision for growth, corresponding forecasts and engineering estimates may also need adjustment. For instance, if the community vision has changed from a slow-growth vision to an aggressive or fast-growth vision, the corresponding demand for services will have changed (i.e. increase). This change in vision and forecasted demand affects engineering design, project costs, and overall project schedule.

• *Does the forecast fully satisfy the growth projection and locations for future growth?* It is vital that the forecasts and vision be reviewed with the community and work group to confirm that the projections and locations for future growth are still accurate. If the alternatives do not satisfy the vision and forecasts, the end result will be a dissatisfied community and an unsuccessful project.

Has there been a change in land use patterns? Perhaps new housing is proposed in an area that was otherwise not considered in the community's plan for the future. Suddenly land became available, funding was issued, and the housing authority wants to put the new houses in a completely different area than previously planned. This change in the location of growth will affect engineering design (e.g. routing of system, location of treatment plant), project costs, and construction schedule.

Forecasts and Vision

Will the alternative work in the future, based on the forecasting and the community vision you came up with in Step 2? For example, will the alternative work for proposed tourism ideas?

In Step 2 of the planning process, forecasts were developed for the future based on population growth estimates and the community vision for growth (e.g. slow, moderate, fast).

Review Forecasts. Now is the time to see if the forecasts still make sense. Has anything changed to lead you to believe that the projected growth is too fast, too slow? Does the alternative provide enough capacity?

Review community vision for where, when, and how growth should occur. This is important when evaluating alternatives. If the community has adjusted its vision for growth, corresponding forecasts and engineering estimates may also need adjustment. For instance, if the community vision has changed from a slow-growth vision to an aggressive or fast-growth vision, the corresponding demand for services will have changed (i.e. increase). This change in vision and forecasted demand affects engineering design, project costs, and overall project schedule.

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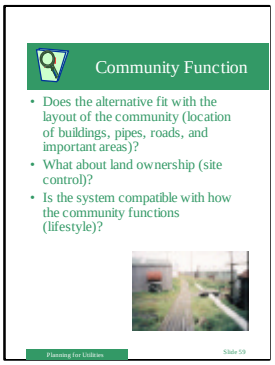
Instructor Tips

• Use this slide to talk about evaluating alternatives to determine how well they work with the other aspect of a functioning community.

References

- SPG Page 22
- SPG Technical Appendix B



Ideas for Real Life Examples

• Provide an example of a community where something was built, but in the wrong place so that it conflicted with a traditional use or a planned future use.

Potential Discussion Questions

• Can you think of important community functions that should be considered when evaluating alternatives?

Speaker Notes

Present the criterion **community function**.

•*Does the alternative fit with the layout of the community?* How a community functions must be respected by the alternative. This means each alternative should consider the location of buildings (houses, stores, etc.), trails systems, important areas, and community lifestyle.

For instance, if a community relies on its trail network for getting around, the routing of the water or sewer system should be made to fit as best it can. Where possible, conflicts with these trail networks should be avoided or at least mitigated (e.g. provide pipe crossings).

In many communities, the buildings are clustered together in the core of the village allowing little room for the construction of a piped system. In order for the alternative to work, there will be temporary disruption to the occupants of those buildings during construction. In some cases, there may even be the need to move or demolish the buildings.

• *What about land ownership?* Each alternative should consider land ownership. Where necessary, some lands may need to be purchased or easements attained in order to develop the alternative. Contact all landowners early in the alternatives development step to ensure their full participation in the evaluation.

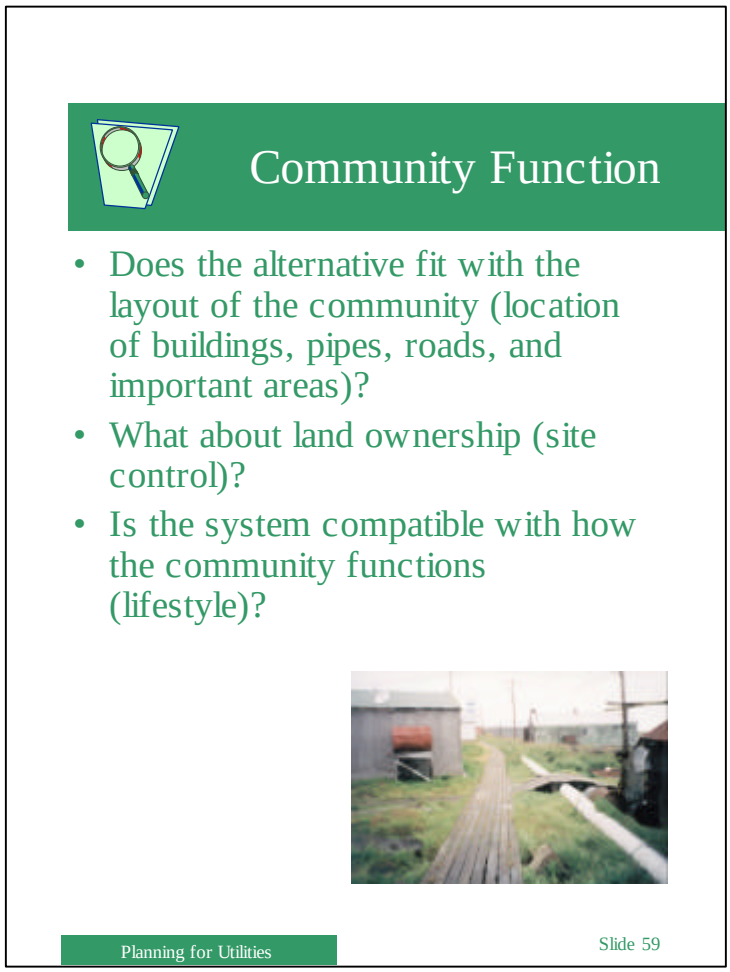
Note: Each alternative brings a change of some sort to how the community functions. A community that previously hauled its waste to the lagoon may now be a community with flush toilets in every home. Recognize that this change in lifestyle is not minor or trivial - educate residents on how the proposed system will actually work in the home. In addition, houses may not be set up to receive the proposed system and changes in the house design will be necessary. This could be a temporary disruption to the lifestyle of the occupants and should be discussed in the alternatives evaluation.

Community Function

Does the alternative work okay considering the community' s buildings, land ownership, other pipes or wires, etc. For example, does the alternative block boardwalks or trails?

Does the alternative fit with the layout of the community? How a community functions must be respected by the alternative. This means each alternative should consider the location of buildings (houses, stores, etc.), trails systems, important areas, and community lifestyle.

For instance, if a community relies on its trail network for getting around, the routing of the water or sewer system should be made to fit as best it can. Where possible, conflicts with these trail networks should be avoided or at least mitigated (e.g. provide pipe crossings).



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Instructor Tips

• Explain how the background information can be used to help make informed decisions about the alternatives under consideration.

• Note the link between this criterion and permits that will need to be secured later.

References

- SPG Page 22
- SPG Technical Appendix B

Ideas for Real Life Examples

• Provide an example of an alternative that was eliminated from consideration because it harmed the environment.

•Provide an example of a community where something was built, but in the wrong place so that it ended up harming the environment.

Potential Discussion Questions

• Why might you want to avoid certain environments in your community? What places would you avoid and why?

• Are there other physical or environmental factors that would need to be considered in your community? What are they?

Speaker Notes

Present the criterion **the environment**. Questions the community will ask include:

•Does the alternative harm the environment?

•Will the environment harm your investment?

Here is a chance to use the environmental information you gathered earlier in the planning process. The land, water, and wildlife in a community is important to residents and to state and federal agencies. Harmony between the people and the environment is usually encouraged and alternatives that account for potential damages to the environment are typically preferred. That is why state and federal agencies with regulatory authority (jurisdiction by law), agencies with special expertise, and stakeholders are teamed together to review the alternatives for impacts to the environment.

State and federal agencies examine each of the alternatives and consider the impacts to the following:

- fish and wildlife habitat
- water quality
- erosion
- flooding
- wetlands
- subsistence
- historic preservation

Community residents should review each of the alternatives for the impacts that harm the land, water, wildlife, and sensitive areas important to the community. In addition, residents should look at whether the environment will harm their investment in a particular system (e.g. flooding, erosion etc.). For instance, if you select a system that is compatible with the local environmental features, it will likely be easier to build, operate, and maintain.

The environment

Does the alternative harm the land or wildlife that is important to the community or agencies? State and Federal agencies will look at flood areas and erosion, fish and wildlife habitat, and climate.

Questions the community should ask:

- Does the alternative harm the environment?
- Will the environment harm our investment?

Here is a chance to use the environmental information you gathered earlier in the planning process. The land, water, and wildlife in a community are important to residents and to state and federal agencies. Harmony between the people and the environment is usually encouraged and alternatives that account for potential damages to the environment are typically preferred. That is why state and federal agencies with regulatory authority (jurisdiction by law), agencies with special expertise, and stakeholders are teamed together to review the alternatives for impacts to the environment.

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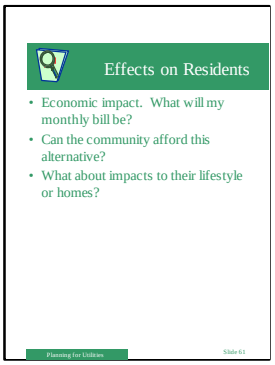
Instructor Tips

• Use this slide to talk about some of the different effects that sanitation project can have on residents and how to use that information to help make better choices.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 22
- SPG Technical Appendix B



Ideas for Real Life Examples

• Provide an example of a community where an alternative was selected that cost too much for residents.

Potential Discussion Questions

• What would happen in your community if an alternative was selected that cost each resident $20 more per month? How about $50? or $100?

• What are some other ways that alternatives can directly affect resident besides in the pocketbook?

Speaker Notes

Present the criterion **effects on residents**.

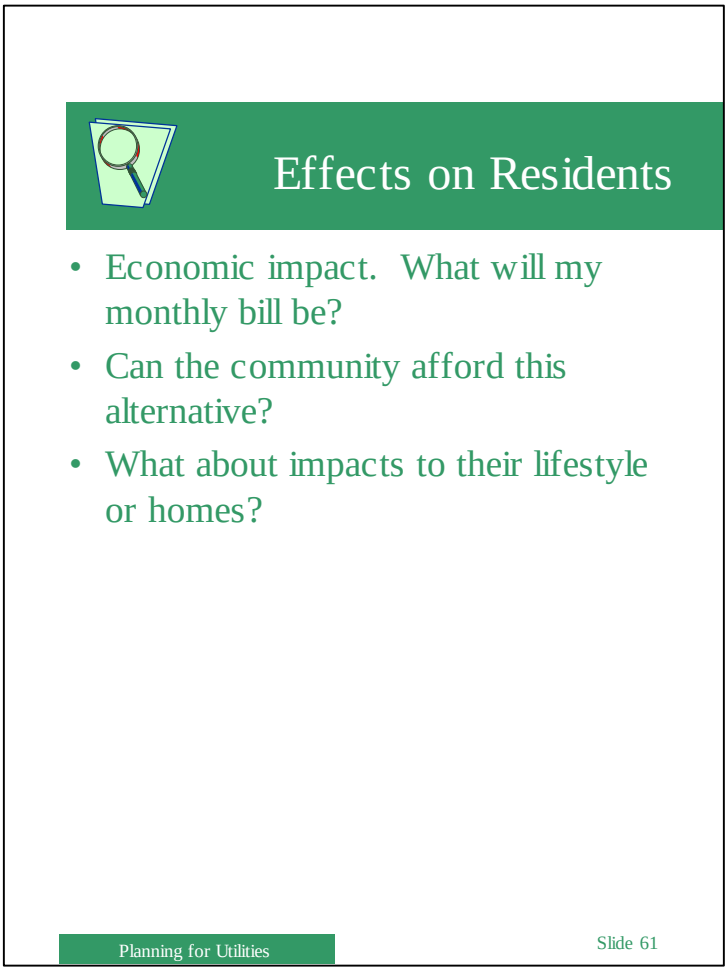
Any system your community chooses to build will have an effect on the residents. It will have an effect because it is a change from how things have always been done previously and change always results in some effect - both positive and negative.

• *Economic Impact*. As you consider each of the alternatives, include a review of the economic impact of the alternatives. This does not mean the cost to build, operate, and maintain it but rather the cost to each resident. Has the alternative specified how much the monthly household bill be? Will residents be able to afford to pay the water and sewer monthly charge?

• *Can the community afford the alternative?* This means, can the community afford to pay for the administration of the system - sending out bills, collecting fees, etc. There will be more discussion on this aspect when we review **community capacity** later in the lesson.

• *Lastly, what about the impacts to their lifestyles and homes?* There will be impacts before, during, and after construction of the project. It is important to review each of the alternatives with the community and ask them to identify whether one alternative or another is preferable based on the effects on residents.

Effects on Residents



With projections in mind for costs to operate the new system and for population, will people be willing to pay what it will cost to run the system? For example, how much will the system cost each resident? How will it affect current lifestyles?

Any system your community chooses to build will have an effect on the residents. It will have an effect because it is a change from how things have always been done previously and change always results in some effect - positive or negative.

Economic Impact. As you consider each of the alternatives, include a review of the economic impact of the alternatives. This does not mean the cost to build, operate, and maintain it but rather the cost to each resident. Has the alternative specified how much the monthly household bill be? Will residents be able to afford to pay the water and sewer monthly charge?

Can the community afford the alternative? This means, can the community afford to pay for the administration of the system - sending out bills, collecting fees, etc. There will be more discussion on this aspect when we review **community capacity** later in the lesson.

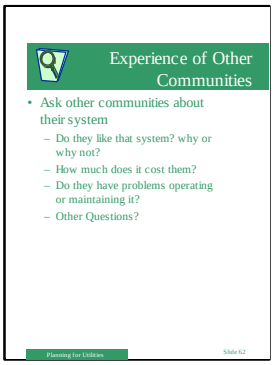
Lastly, what about the impacts to their lifestyles and homes? There will be impacts before, during, and after construction of the project. It is important to review each of the alternatives with the community and ask them to identify whether one alternative or another is preferable based on the effects on residents.

Instructor Tips

• Use this slide to stress that there is much that can be learned from other communities that can be helpful in evaluating the alternatives you are considering.

References

- SPG Page 22
- SPG Technical Appendix B



Ideas for Real Life Examples

• Think of an example where a community made or altered a decision based on learning something from another community.

Potential Discussion Questions

• Why might you want to see what other communities have experienced with an alternative that is similar to yours? What might you hope to learn?

Speaker Notes

Present the criterion **experience of other communities**. As you go through these criteria, have students begin by sharing what they have learned about their specific jobs from others. Relate this to the master planning process. Ask other communities what they like about their system.

• *Does it work? Why or why not?* Communities can learn from what others have already experienced. Just like you pass down from generation to generation what you know about hunting, trapping, beadwork, dollmaking, and food preparation, to name a few, find out what has worked and not worked in other communities.

• *What were the cost to residents, unit costs, maintenance requirements, reliability?* Check to see if the alternatives you are considering have ever been used in another community. If so, what were the circumstances? Was it a community with similar environmental constraints, cultural traits, lifestyle? If a particular system was successful for them, it might also work for you. If it a system was not, then it may not be appropriate for your community.

• *Are there other questions you want to know about their system?* Talk to other people in the community besides the village or city administrator and utility operator. Talk to residents, clinic workers, the utility operator, business owners. Ask them if they like the system, how much does it cost to operate and maintain, and what kinds of problems have they had with the system.

These interviews may mean calling other communities on the phone. However, you may even want to make a visit to the community and check out the system in person.

Instructor Tips

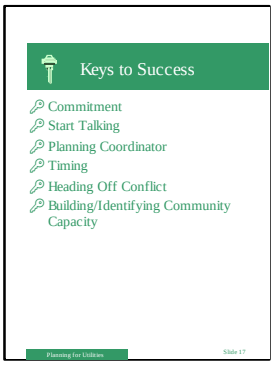
• Don't go into too much detail on the items on this slide as additional slides follow with more detail.

• Try using the round robin discussion technique. (If you do, point out that the round robin discussion technique is one type of facilitated discussion that can be used in public involvement).

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 4 & 5
- SPG Appendix A, Public Involvement, Pages A-1, A-2, A-13, and A-14



Overview Slide

Ideas for Real Life Examples

• Present examples of planning processes that were (un)successful specifically because of one of the bulleted items below.

Potential Discussion Questions

• What have been keys to successful plans or projects in your community?

Round Robin. Try using flip chart/easel, facilitate a round robin discussion of student's perspective on successful plans. Summarize key elements that students identify - i.e. if a student mentioned research, note it. If a student mentioned public involvement, note it.

Speaker Notes

This next section introduces the **6 keys to a successful planning process**.

Additional details on each key are included in subsequent slides. Use round robin to open up discussion on the keys to success.

Briefly the 6 keys to success are:

- *Commitment*
- *Start Talking*
- *Identify a Planning Coordinator*
- *Timing*
- *Heading off Conflict*
- *Form a Work Group*

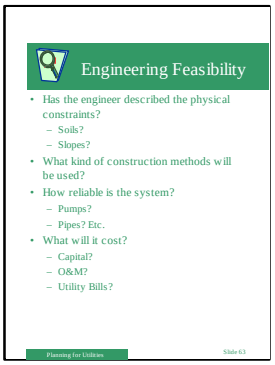
Instructor Tips

• Use this slide to talk about the kinds of information that engineers can provide about each of the alternatives that are useful in making a decision.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 22
- SPG Technical Appendix B



Ideas for Real Life Examples

• Display a copy of an engineering feasibility report or a preliminary engineering study. Discuss and highlight the types of information provided in the report.

Potential Discussion Questions

• What other kinds of information can an engineer provide to help inform us about each alternative?

Speaker Notes

Present the criterion **engineering feasibility**. Often engineering feasibility is viewed as the primary criterion when evaluating alternatives. It is but one criterion, but it is an important one.

• *Physical Constraints*. Engineers look at the underlying land formation - geology, presence of permafrost, soils, the potential for erosion or flooding in order to design a system that will not fail. All of these features can impact the ability to build AND operate and maintain the system. Each alternative should be reviewed taking into account specific engineering points like:

Are the soils good for building on? What about the potential for erosion and flooding along the proposed route?

• *Does the alternative involve unusual construction methods*? Have the methods been clearly described along with the additional cost?

•*I s the alternative going to be reliable?* Are the pumps easy and inexpensive to operate and repair? Is the material for the pipe suitable for the climate and underlying soils?

• *How much is the project construction going to cost?* What are the capital costs for construction and what are the estimated utility bills for each resident?

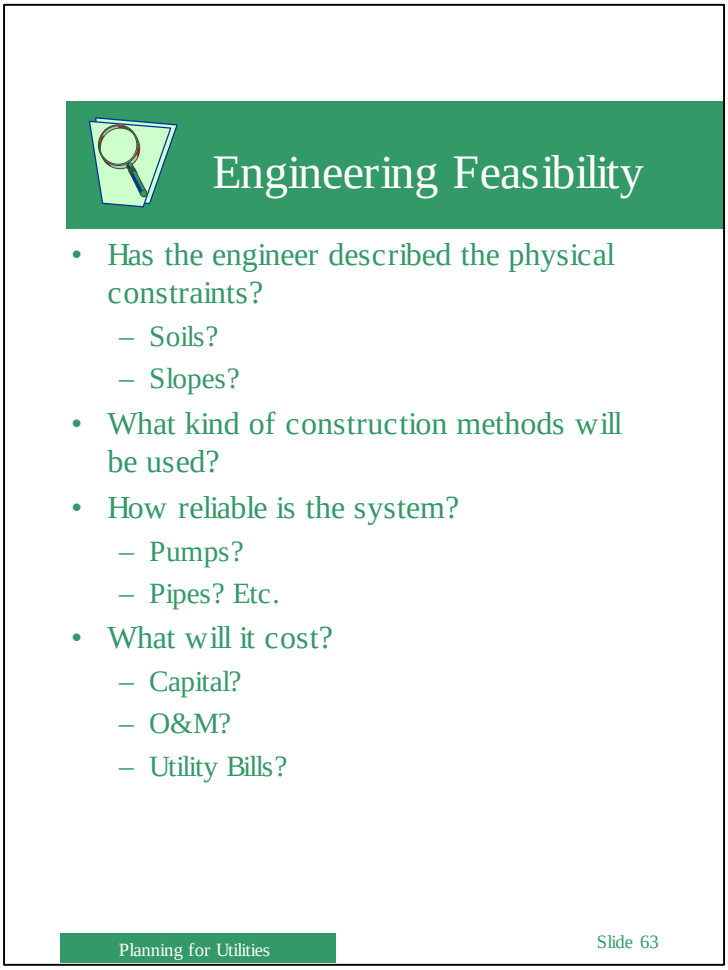
• *What are the O&M costs and considerations*? How much will the utility bills run for homes and businesses?

It is okay to ask the engineer which alternative they think will work best in your specific community based on these points.

Engineering Feasibility

Often engineering feasibility is viewed as the primary criterion when evaluating alternatives. It is but one criterion, but it is an important one. Do the engineers think the alternative will work well in your location? Ask an engineer whether each alternative will work taking into account specific engineering points like:

- Are the soils good for building on?
- Does the alternative involve unusual construction work?
- Is the alternative reliable?
- How much is construction likely to cost?
- What are the operation & maintenance costs and considerations?



Physical Constraints. Each alternative should be reviewed taking into account specific engineering points Engineers look at the underlying land formation - geology, presence of permafrost, soils, the potential for erosion or flooding in order to design a system that will not fail. All of these features can impact the ability to build AND operate and maintain the system.

Does the alternative involve unusual construction methods? Have the methods been clearly described along with the additional cost?

Is the alternative going to be reliable? Are the pumps easy and inexpensive to operate and repair? Is the material for the pipe suitable for the climate and underlying soils?

How much is the project construction going to cost? What is the capital costs for construction and what are the estimated utility bills for each resident?

What are the O & M costs and considerations? How much will the utility bills run for homes and businesses? What about management and administration – two key aspects of a successful O&M program?

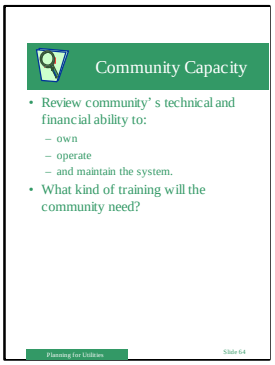
It is okay to ask the engineer which alternative they think will work best in your specific community based on these points.

Instructor Tips

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 23
- SPG Technical Appendix B



Exercise 12

Ideas for Real Life Examples

• Provide an example of a community that bought off more than they could chew. What happened and why?

Potential Discussion Questions

• Why do you think a community should think about community capacity now in the process? What could happen if you don't consider community capacity?

• Has anyone heard of a community where this was a problem.

Speaker Notes

Present the criterion **community capacity**.

• *What is your community's technical and financial ability to own, operate and maintain the proposed system?* Whether or not your community has this ability should effect your evaluation of the alternatives. Think about how your community would operate and maintain each of the alternatives.

• *What kind of training will be needed?* Consider the reliability of the local workforce and the training needs for the entire community. Find out if how many personnel are need to operate and maintain each alternative. If one operator is not sufficient, ask about the cost if you need to add more trained personnel.

• *Will the system be too sophisticated to repair locally?* Would it require plumbing, computer, or even mechanical engineering experience that currently does not exist in the community? What costs are associated with that if you need to bring in trained personnel when repairs are needed?

If necessary, cross-reference to earlier discussion on community capacity.

Conduct Exercise 12 - Evaluate and Compare Alternatives

Purpose of Exercise - to have students review evaluation criteria and public involvement techniques. Use the comparison chart.

Community Capacity

Can your community handle it? Think about how your community would operate and maintain each of the alternatives. What kinds of management does the alternative require? Consider the reliability of your work force, training needs, number of operators needed for the alternative, and the sophistication of the system (e.g. would it require more of a plumber or more of a computer expert–or both?).

What is your community' s technical and financial ability to own, operate and maintain the proposed system? Whether or not your community has this ability should effect your evaluation of the alternatives. Think about how your community would operate and maintain each of the alternatives.

What kind of training will be needed? Consider the reliability of the local workforce and the training needs for the entire community. Find out if how many personnel are needed to operate and maintain each alternative. If one operator is not sufficient, ask about the cost if you need to add more trained personnel.

Will the system be too sophisticated to repair locally? Would it require plumbing, computer, or even mechanical engineering experience that currently does not exist in the community? What costs are associated with that if you need to bring in trained personnel when repairs are needed?

Be sure to refer to earlier discussion on community capacity.

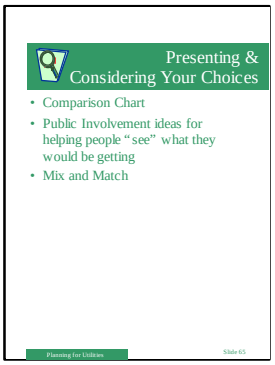
Instructor Tips

• Don't spend too much time on this slide as additional slides follow.

• Use this slide to tell students what you are going to cover in the next unit.

References

- SPG Page 22-24
- SPG Technical Appendix A.



Overview Slide

Ideas for Real Life Examples

• Talk about a community where residents did (not) understand what was contained in the alternatives. What happened? How would good presentation of the material helped?

Potential Discussion Questions

• Have you been at a meeting where alternatives and their pros and cons were discussed? What presentation techniques were used. What could have been done better?

Speaker Notes

This section is an overview slide that introduces techniques for effectively and efficiently **presenting and considering** the range of alternatives or choices.

There are many ways to present the work group's evaluation of each of the alternatives. They include:

• *Comparison Charts*

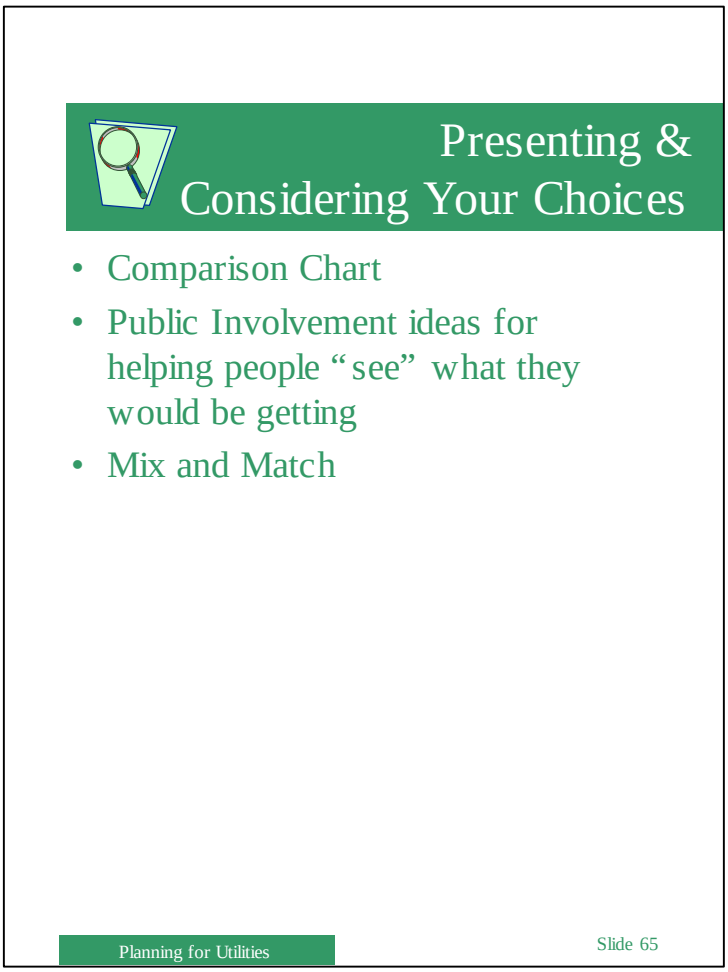
• *Public Involvement ideas for helping people "see" what they would be getting*

• *Mix and Match*

Presenting and Considering your Choices

There are several useful techniques for effectively and efficiently **presenting and considering** the range of alternatives or choices. They include:

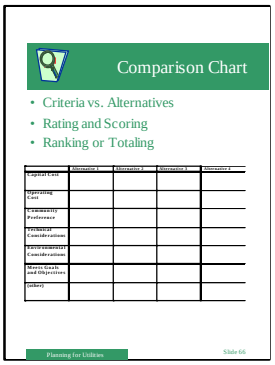
- *Comparison Charts*
- *Public Involvement ideas for helping people "see" what they would be getting*
- *Mix and Match*



Instructor Tips

• Use this slide to discuss how to use a comparison chart.

• Use a flip chart to draw a quick chart or draw on the overhead. Fill in some sample cells as you give the lecture.



Ideas for Real Life Examples

• Display an example of a similar chart from a plan or project.

Potential Discussion Questions

• Has anyone ever seen or used such a chart? If so do you have any tips for other students? What worked or didn't work?

• There are variation to this type of chart, has anyone used a similar but different method? How was it structured?

Lesson 5 Evaluating Alternatives

Speaker Notes

One very effective and efficient method is the use of a **comparison chart**.

•*Criteria vs. Alternatives*. The chart provides a clear picture of each of the alternatives and how it fits the criteria. However, it is important to begin by reviewing the important role of the work group. The work group takes the lead in this step and takes the criteria suggested and selects the ones most relevant to the community. Once they have come up with the list of criteria, create a chart with a "scorecard" system to present what is good and bad about each alternative.

•*Rating and Scoring*. One way is to list the criteria along the side and the alternatives across the top. For instance, you might have criteria on the left such as capital cost, operating cost, community preference, technical considerations, etc… Across the top list the three or four alternatives you have evaluated. Using a + or - or a scoring system (1-10), score each alternative. You can also score using the "units" relevant to the criteria.

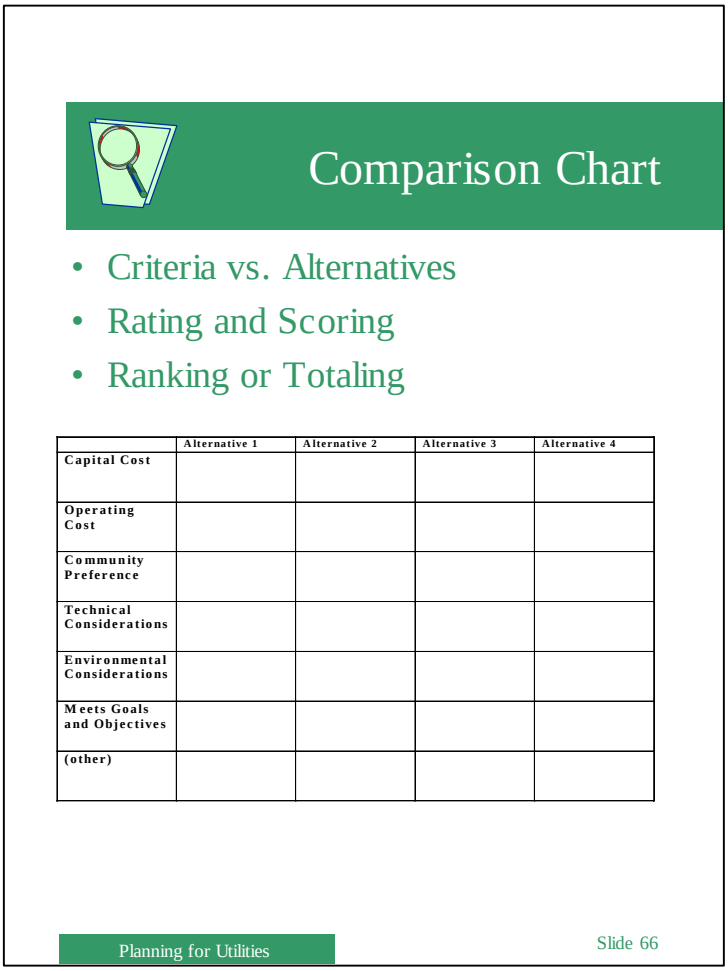
•*Ranking or totaling*. Another option to scoring is to write short comments under each of the criteria. For instance, you may be tempted to score one alternative low because of cost but there are "mitigating circumstances" involved with the score. Writing down your comments helps record those circumstances so you can come back to them when you select the preferred alternative.

Use the chart to show how well each alternative rates against important community and engineering criteria. Rank or total the scores so the work group can then move onto creating a final list of the alternatives that appear to work the best for the community or for selecting the preferred alternative.

Comparison Chart

A comparison chart is probably the easiest method for presenting how well each alternative will work. After the work group has come up with a list of criteria, you can create a chart to present what is good and bad about each alternative. The work group can fill in the chart either by marking with a + or – or by using a scoring system. Using this "scorecard" approach in Step Three (Identifying Choices) allows your community to look at how alternatives compare against each other.

Also, instead of a + or – or scoring, you can write short comments or cost amounts under each of the criteria. Use the chart to show how well each alternative rates against important community and engineering criteria.



Instructor Tips

• Use this slide to review public involvement techniques that work well for displaying and presenting alternatives.

• Remember that text highlighted in **green** represents potential test questions.

Ideas for Real Life Examples

• Show some slides or picture of built sanitation alternatives and compare them with the engineered drawings.

Potential Discussion Questions

• Can you think of any other ways to help members of your community envision what the alternatives are that they are considering?

Speaker Notes

This slide presents a review of **public involvement** techniques for helping the community "see" what they are selecting. Once the work group has created a **final list** of the alternatives that work for the community, you are ready to present this information to the public. It is a good idea to have an equal amount of information on each one, especially if there is a perception that you are not treating all of the alternatives fairly.

•*Drawings.* Techniques that work to help people "see" include visual presentations and public meetings. For instance, use drawings or maps of the alternatives. The drawings should adequately portray what the system might look like once constructed. Include a map to show the proposed routing of the system, the location of the new treatment plant, etc.

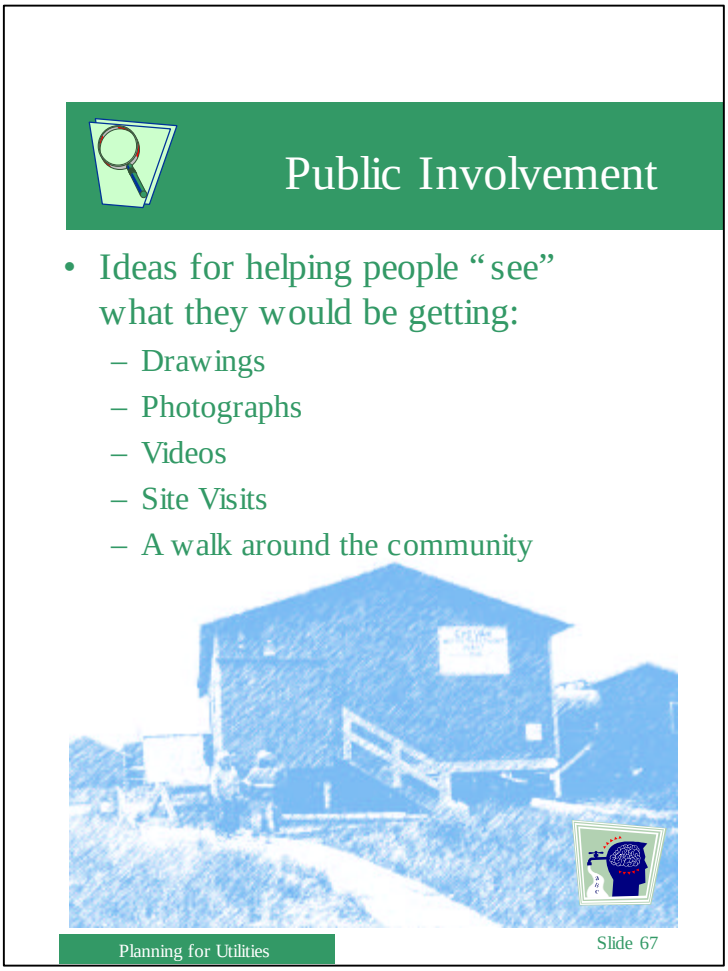
•*Photographs.* Use photographs and videos where possible - especially from other communities. These techniques help people "see" real-life examples of different systems. If one of the alternatives proposes an above-ground piped system, get photos or a video from where the system has been built so folks can see what it looks like.

•*Site Visits.* Site visits are great. If possible select a community where the system you are considering is under construction and then select another community where the system is in place. This allows you to see both the impacts during construction and the final product.

•*Walk around your own community.* Take the engineer and trace the routing of the system on the ground to see where system might impact buildings, trails, sensitive areas.

Public Involvement

Helping the community "see" what they are evaluating will make the selection process less difficult for your community. Once the work group has created a**final list** of the alternatives that work for the community, present this information to the public. It is a good idea to have an equal amount of information on each one, especially if there is a perception that you are not treating all of the alternatives fairly.



Below are some ways to involve the public in the evaluation process.

Drawings. Techniques that work to help people "see" include visual presentations and public meetings. For instance, use drawings or maps of the alternatives. The drawings should adequately portray what the system might look like once constructed. Include a map to show the proposed routing of the system, the location of the new treatment plant, etc.

Photographs. Use photographs and videos where possible - especially from other communities. These techniques help people "see" real-life examples of different systems. If one of the alternatives proposes an aboveground piped system, get photos or a video from where the system has been built so folks can see what it looks like.

Site Visits. Site visits are great. If possible select a community where the system you are considering is under construction and then select another community where the system is in place. This allows you to see both the impacts during construction and the final product.

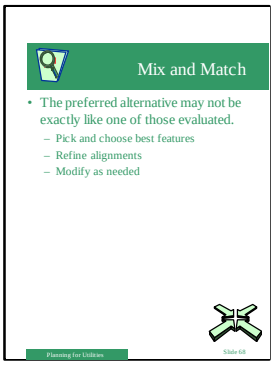
Walk around your own community. Take the engineer and walk the routing of the system on the ground to see where system might impact buildings, trails, and sensitive areas.

Instructor Tips

• This is the last slide in the section - be sure to recap the different elements involved in Evaluating Alternatives.

• The most important thing is that students know that the preferred alternative need not be exactly one of the alternatives that has been evaluated.

• Remember that text highlighted in **green** represents potential test questions.



Ideas for Real Life Examples

• Discuss an example where what was built was not exactly what was drawn out as an alternative at this stage of the process. What changed and why?

Potential Discussion Questions

• Why might you want to mix and match the various elements of the the various alternatives you are considering?

Speaker Notes

In this section present the idea of **mix and match**. Do not be afraid to mix and match alternatives.

•*The preferred alternative may not be exactly like one of those evaluated*. One community might have difficulty reaching agreement on one alternative or another community might be open to all the alternatives. You can often reach agreement by choosing the parts of each alternative that you like for a final preferred alternative so long as the combined alternative meets the goals and objectives of the community, scores well against the criteria you have selected for evaluation and is still feasible.

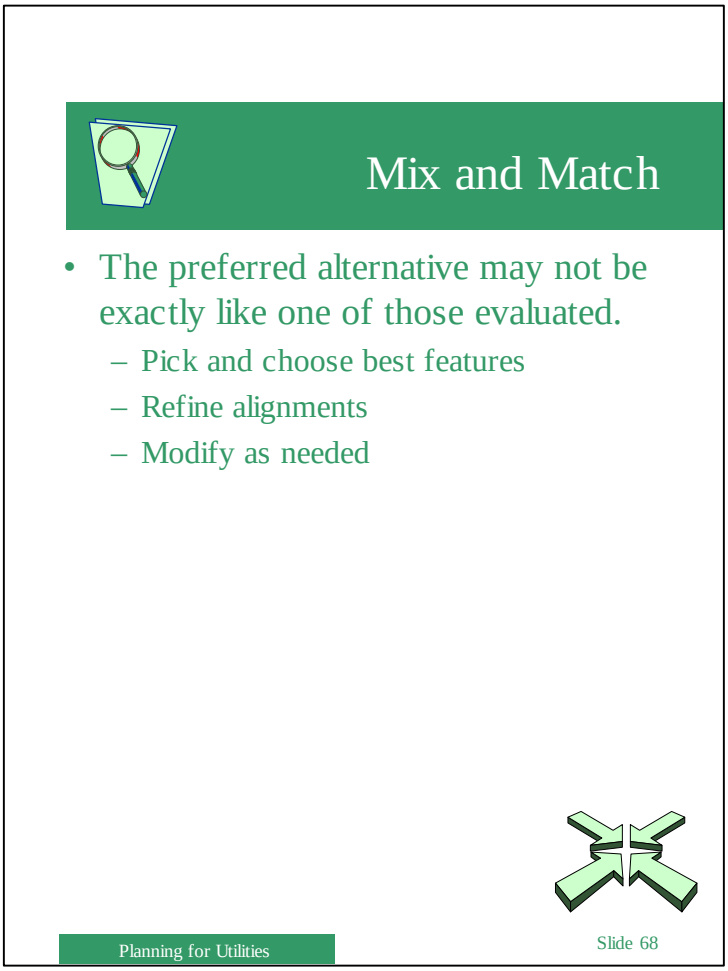
• Pick and choose the best features and refine alignments as necessary.

• When you discuss mixing and matching, get input from the engineer to ensure that all the technical concerns are addressed in the combined alternative. This may mean additional modifications in order to combine the best features and alignments you have selected.

Conclude by recapping the section before doing the exercise.

Mix and Match

Do not be afraid to mix and match alternatives. The preferred alternative may not be exactly like one of those evaluated. Pick and choose the best features and refine alignments as necessary.



For example, one community might have difficulty reaching agreement on one alternative or another community might be open to all the alternatives. You can often reach agreement by choosing the parts of each alternative that you like for a final preferred alternative so long as the combined alternative meets the goals and objectives of the community, scores well against the criteria you have selected for evaluation and is still feasible.

When you discuss mixing and matching, get input from the engineer to ensure that all the technical concerns are addressed in the combined alternative. This may mean additional modifications in order to combine the best features and alignments you have selected.

In the End. Create a final list of the alternatives that appear to work for the community. Make sure you have an equal amount of information on each one. Get ready to select one of the alternatives in Step 4 and to celebrate the decision!

Goal of this Lesson

Selecting a preferred alternative is about making a decision. Students should understand what has led up to this point in the planning process and how to determine if their community is ready to make a decision.

Educational Objectives

After completing this lesson participants should be able to -

• understand terms like preferred alternative, preliminary engineering and capital improvement program

• know what belongs in a CIP, draft master plan, and final master plan

Schedule

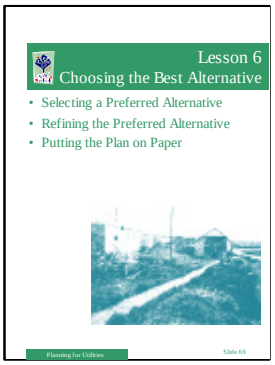
Lesson: 4.5 hours

Length:

- Selecting & Refining the Preferred Alternative 1.5 hours
- Putting the Plan onto Paper 1.5 hours
- Lesson Worksheet .5 hours
- Exercises 45 minutes

Equipment/Supplies:

- Overhead projector, screen, markers and flip chart.



Overview Slide

Lesson 6 Choosing the Best Alternative

Speaker Notes

This is an overview slide introducing how to **choose the best alternative**. At this point in the process, the work group has consulted the community to come up with wide range of water and sewer alternatives and has narrowed down the list to a reasonable range of choices for evaluation. That range of alternatives has been evaluated and the information has been presented so that the decision-making body can select a preferred alternative.

The work group has consulted the community to determine whether each alternative:

- *meets the community's goals and objectives*
- *fits with the community's vision for the future*
- *serves the forecasted demand*
- *has adequately addressed engineering recommendations*
- *is understood by residents*

At this point, the community should be ready to move on to selecting a preferred alternative, refining it, and putting the plan on paper.

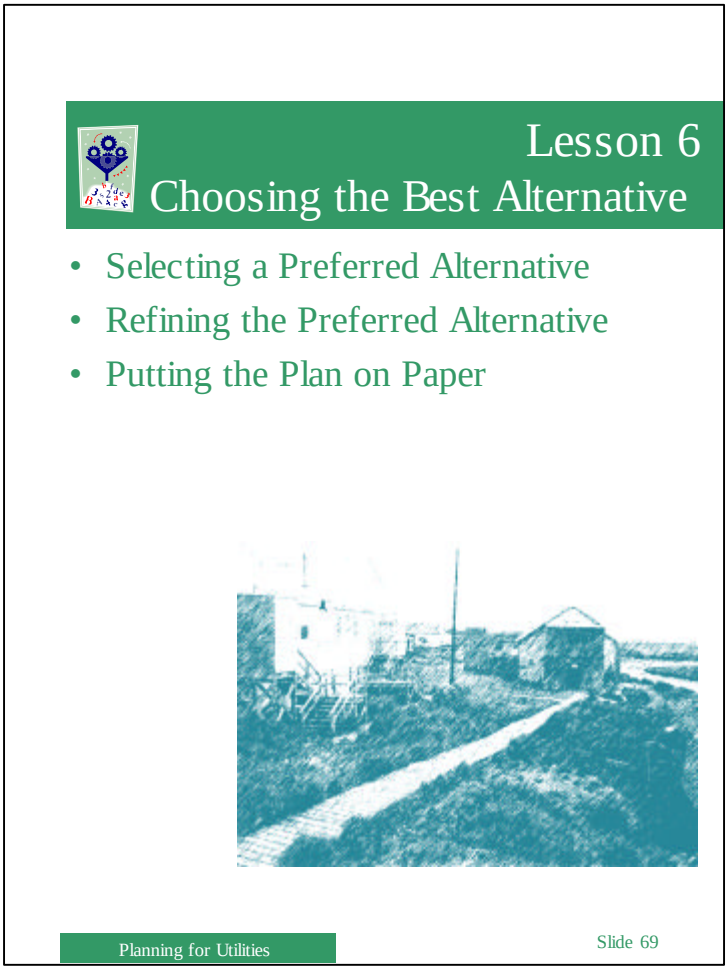
Topics to be discussed in this lesson include:

- *Selecting a Preferred Alternative*
- *Refining the Preferred Alternative*
- *Putting the Plan on Paper*

Lesson 6 Choosing the Best Alternative

Lesson 6: 4.5 hours

Length:
- Selecting & Refining the Preferred Alternative 1.5 hours
- Putting the Plan onto Paper 1.5 hours
- Lesson Worksheet .5 hours
- Exercises 45 minutes



Learning Objectives

Selecting a preferred alternative is about making a decision. Students should understand how to determine if their community is ready to make a decision.

After completing this lesson you should be able to:
- understand terms like preferred alternative, preliminary engineering and capital improvement program
- know what belongs in a CIP, draft master plan, and final master plan

Topics to be discussed in this lesson include:
- *Selecting a Preferred Alternative*
- *Refining the Preferred Alternative*
- *Putting the Plan on Paper*

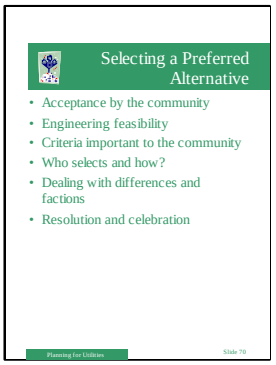
Instructor Tips

• Use this slide to illustrate what goes into selecting a preferred alternative and who should make the decision.

•Remember the text highlighted in **green** represent potential test question.

References

• SPG Page 25



Exercise 13

Ideas for Real Life Examples

• Have examples of resolutions adopting the preferred alternative and final master plan.

Potential Discussion Questions

• Who should select the preferred alternative in your community?

Lesson 6 Choosing the Best Alternative

Speaker Notes

In this section, present the steps involved in **choosing a preferred alternative**. By now the community will have a list of alternatives and all the information they need to decide on a preferred water and/or sewer system. This is a major milestone in the planning process. Once you select a preferred alternative, it is difficult and expensive to turn back and change your mind. Your community should not feel rushed into making a decision because of funding deadlines, construction timing and seasonal constraints, or for other reasons. Select your preferred alternative based upon the following:

• *Acceptance by the community*. Have community wants and needs been addressed?

• *Engineering feasibility*. Has your engineer adequately explained the design plans how the system will work in the community? Do residents understand how the system generally works and how much it will cost them?

• *Criteria important to your specific community*. Does the alternative satisfy the criteria important to your community? For instance, does the routing of the pipes avoid the graveyard?

•*Who selects the preferred alternative and how*? In the previous planning step, you evaluated each alternative and presented this **comparison chart** for the community to review and discuss. Residents and community leaders must fully understand the pros and cons of each alternative.

•*How do you deal with differences of opinions or factions within the community*? If there remain unresolved differences of opinion about selecting a preferred alternative, you need to step back and review the evaluation criteria against each alternative. Find out if you missed something important. Engineers and other appropriate technical staff should be contacted with questions.

•*Is it time to pass a resolution approving the alternative*? Once you have agreed on the preferred alternative, it's time to celebrate. A resolution from the local government supporting the preferred alternatives typically required.

Conduct Exercise 13 Choosing the Best Alternative

Purpose of Exercise - to help students learn how to determine when their community is ready to choose a preferred alternative.

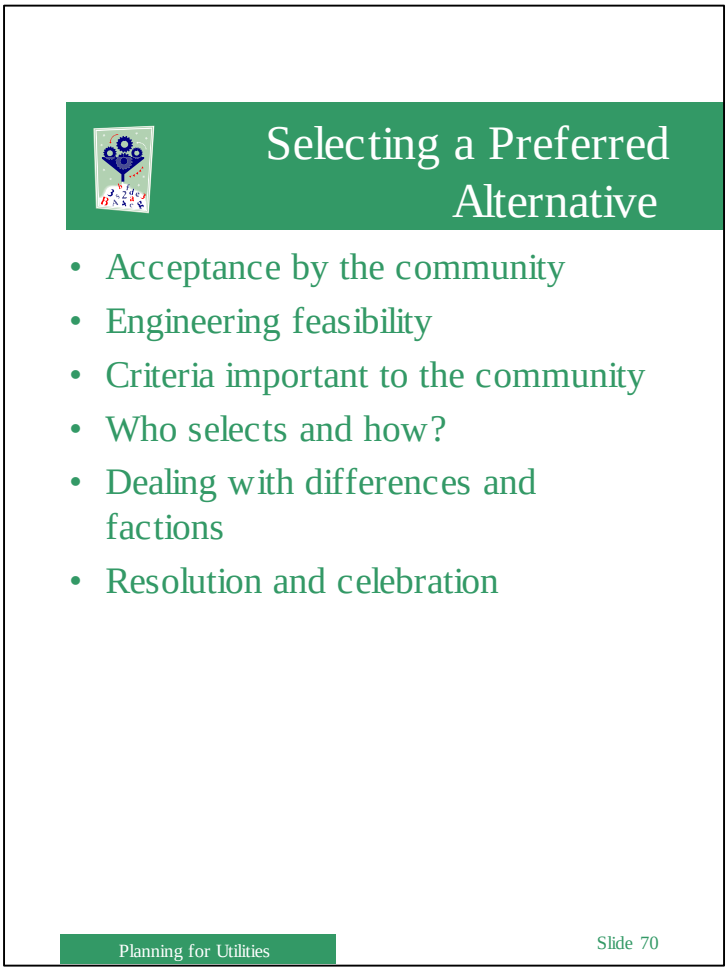
Selecting a Preferred Alternative

By now the community will have a list of alternatives and all the information they need to decide on a preferred water and/or sewer system. Select your preferred alternative based upon the following:

Acceptance by the community. Have community wants and needs been addressed?

Engineering Feasibility. Has your engineer adequately explained the design plans how the system will work in the community? Do residents understand how the system generally works and how much it will cost them?

Criteria important to your specific community. Does the alternative satisfy the criteria important to your community? For instance, does the routing of the pipes avoid the graveyard?



Who selects the preferred alternative and how? In the previous planning step, you evaluated each alternative and presented a **comparison chart** for the community to review and discuss. Residents and community leaders must fully understand the pros and cons of each alternative.

How do you deal with differences of opinions or factions within the community? If there remain unresolved differences of opinion about selecting a preferred alternative, you need to step back and review the evaluation criteria against each alternative. Find out if you missed something important. Engineers and other appropriate technical staff should be contacted with questions.

Is it time to pass a resolution approving the alternative? Once you have agreed on the preferred alternative, it' s time to celebrate. A resolution from the local government supporting the preferred alternatives typically required. If you are funding the design or construction on your own, a resolution is not required, but would provide a means of documenting your community' s decision

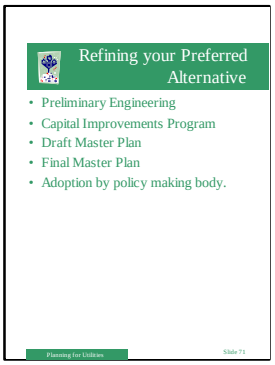
Instructor Tips

• Don't spend too much time on this slide as additional slides follow.

• Use this slide to tell students what you are going to cover in the next unit.

References

- SPG Page 25
- SPG Technical Appendix D



Overview Slide

Ideas for Real Life Examples

• Show students the copy of a final plan.

• Discuss changes to the preferred alternative that occurred between the time an alternative was selected and coming up with the draft plan.

Potential Discussion Questions

• This step is often completed by the engineer, can you think of reasons why the community should continue to be involved?

Speaker Notes

This is an overview slide that introduces how to **refine the preferred alternative**. The process for refining the preferred alternative depends on the specific community and the project.

There are some standard procedures that engineers follow when refining the preferred alternative. There are ways you can actively involve your community in this step.

Topics include:

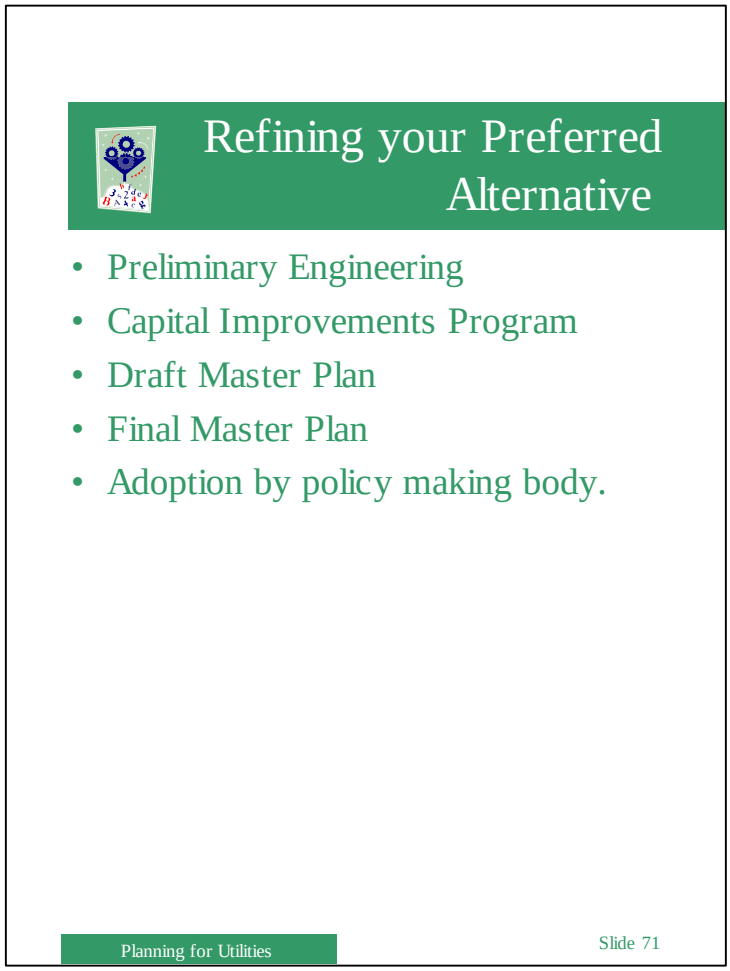
- *Preliminary Engineering*
- *Capital Improvement Program*
- *Draft Master Plan*
- *Final Master Plan*
- *Adoption by appropriate policy-making body*

Refining your preferred alternative

There are no set rules on how a water and sewer project moves from a preferred alternative selection (the concept/planning phase) through "preliminary engineering" to the development of a "Water and Sewer Master Plan." The process depends on the community and project. However, there are some standard procedures that engineers follow and ways you can actively involve your community.

Topics to be presented in this section include:

- *Preliminary Engineering*
- *Capital Improvement Program*
- *Draft Master Plan*
- *Final Master Plan*
- *Adoption by appropriate policy-making body*



There are also many ways you can actively involve your community in this planning step and these are presented in this section.

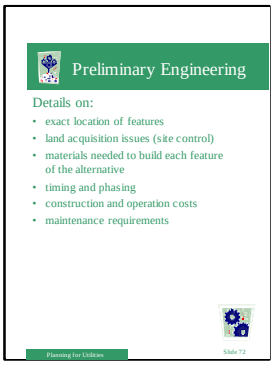
Instructor Tips

• Help students understand the level of effort between preliminary engineering and final design.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 25
- SPG Technical Appendix D



Ideas for Real Life Examples

• Show examples of preliminary engineering plans and drawings. Explain what goes into this level of engineering.

Potential Discussion Questions

• Can you think of reasons the residents and the work group should continue to be involved during preliminary engineering?

Speaker Notes

This section provides details on **preliminary engineering**. Preliminary engineering results in a series of drawings and maps made with a computer drafting program. This step takes the preferred alternative from the concept to the first design level. However, the design is still not set in stone. The purpose of preliminary engineering is to come up with engineering plans detailed enough for a cost estimate and a construction schedule that you can use to ask for funding and permits.

• *Project Location.* During the preliminary engineering step, the engineer prepares a detailed design of the preferred alternative - making it into a project that agencies can fund. The preliminary engineering should provide a project location (or pipe route) and details on the exact location of project features (water treatment plant, pump station, etc.).

• *Land Acquisition.* Has the land needed for the project been acquired (i.e. site control - easements, row, lease, deed, etc.)?

• *What materials are needed to build each feature?* Preliminary engineering includes a list the required materials needed to build each feature and the costs.

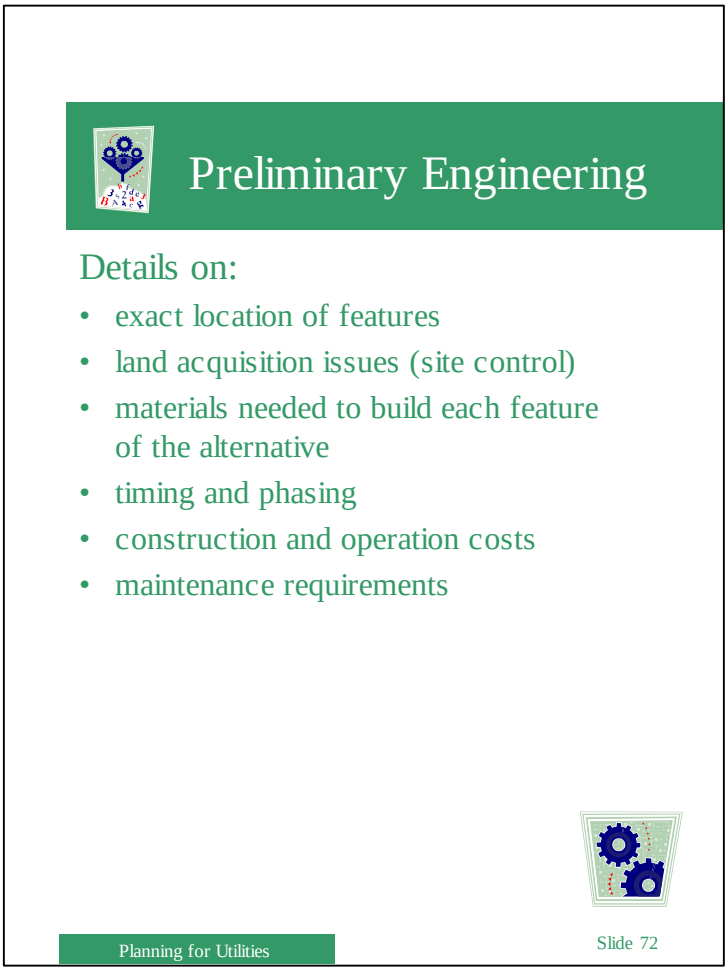
•*Timing and Phasing of Construction.* A description of the timing and phasing of construction, construction and operation costs, and maintenance requirements should be provided.

Review the diagrams, figures or maps of the engineer's findings with the community. Walk residents through the designed system explaining everything from where the important buildings will be to what "in-house" plumbing will look like.

If the engineer has adjusted or changed the preferred alternative, ask them to provide written justification for the changes.

Preliminary Engineering

This section provides details on **preliminary engineering**. Preliminary engineering results in a series of drawings and maps made with a computer-drafting program. This step takes the preferred alternative from the concept to the first design level. However, the design is still not set in stone.



The purpose of preliminary engineering is to come up with engineering plans detailed enough for a cost estimate and a construction schedule that you can use to ask for funding and permits.

Topics to be discussed regarding preliminary engineering include:

- *Project Location.* During the preliminary engineering step, the engineer prepares a detailed design of the preferred alternative - making it into a project that agencies can fund. The preliminary engineering should provide a project location (or pipe route) and details on the exact location of project features (water treatment plant, pump station, etc.).

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- *Timing and Phasing of Construction.* A description of the timing and phasing of construction, construction and operation costs, and maintenance requirements should be provided.

Review the diagrams, figures or maps of the engineer' s findings with your community. Walk residents through the designed system explaining everything from where the important buildings will be to what "in-house" plumbing will look like.

If the engineer has adjusted or changed the preferred alternative, ask them to provide written justification for the changes.

Instructor Tips

• Use this slide to discuss what goes into a capital improvement program.

• Note that an entire guidebook has been prepared covering capital improvement programming.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 26
- SPG Technical Appendix D

Exercise 14

Ideas for Real Life Examples

• Present a copy of an existing capital improvement program from a community similar to where the students live and work.

Potential Discussion Questions

• Does your community have a capital improvement program?

• Describe some of the benefits of developing a CIP (getting funding, scheduling labor etc.). Have students brainstorm other reasons.

Lesson 6 Choosing the Best Alternative

Speaker Notes

This section presents how to **develop a capital improvement program**. After preliminary engineering a capital improvement program can be developed. It should be done by you and your engineer.

A CIP typically contains the following elements:

- a *list of capital improvements* (things to build) in order of importance or timing
- a *short description of each feature* of the project including costs. This often includes a justification of the need for the project.
- a *schedule* for seeking funding and likely funding sources
- a *construction schedule* for building each feature and/or project phase.

The CIP should group work items together into projects that can be built and funded together as a package. For each of the projects, there should be a construction, operations, and maintenance cost estimate. The CIP should include an assessment of potential local, state, and federal funding sources.

After you have the refined project estimates you are ready to prepare a water and sewer master plan for review by residents and agencies.

Conduct Exercise 14 Preparing a CIP

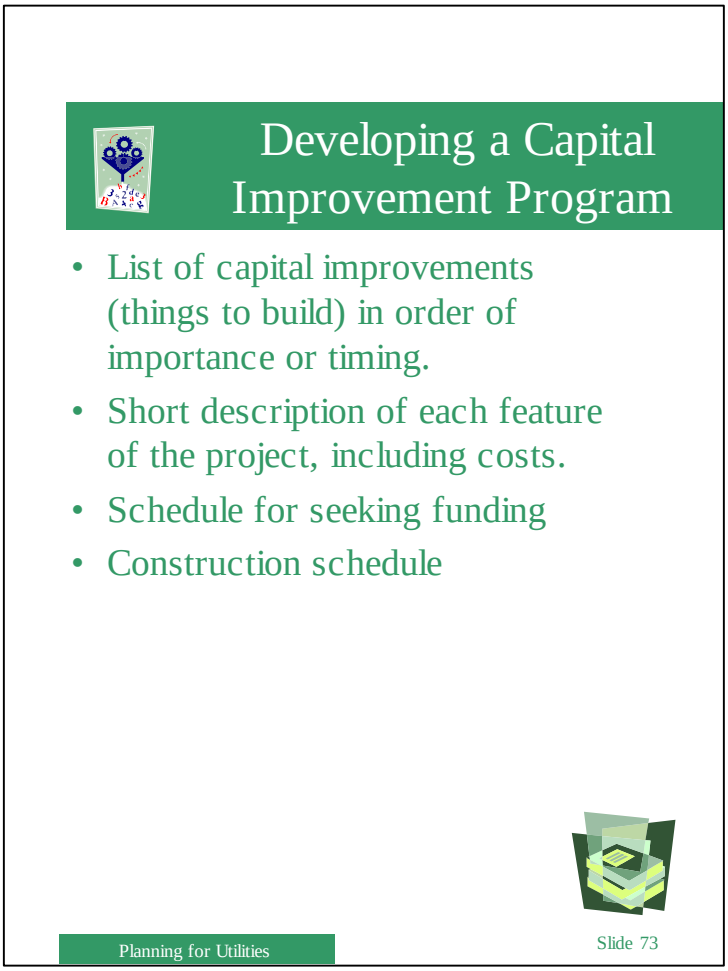
Purpose of Exercise - for students to work through the actual preparation of the CIP

Develop a Capital Improvements Program (CIP)

After preliminary engineering a capital improvement program can be developed. You and your engineer should do the CIP.

A CIP typically contains the following elements:

- A list of capital improvements (things to build) in order of importance or timing
- A short description of each feature of the project including costs. This often includes a justification of the need for the project.
- A schedule for seeking funding and likely funding sources
- A construction schedule for building each feature and/or project phase.



The CIP groups work items together into projects that can be built and funded together as a package. For each of the projects, there should be a construction, operations, and maintenance cost estimate. Even if your community is proposing a large, once-in-a-lifetime project such as storage tanks that cost hundreds of thousands of dollars, the project should be in the Master Plan and CIP. In addition, the CIP should include an assessment of potential local, state, and federal funding sources.

After you have the refined project estimates you are ready to prepare a water and sewer master plan for review by residents and agencies.

Instructor Tips

• Use this slide to discuss what goes into a sanitation master plan.

• Remember the SPG technical appendix has an annotated outline of a typical master plan.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Page 26
- SPG Technical Appendix B.
- Community Sanitation Master Plan example.

Exercise 15

Ideas for Real Life Examples

• Present a copy of a sanitation master plan.

Potential Discussion Questions

• Who would adopt a sanitation master plan in your community?

Lesson 6 Choosing the Best Alternative

Speaker Notes

In this section, discuss the contents of a **draft and final master plan**.

• *What goes into the master plan*? All the information that has been collected and developed can be put into the draft master plan. Use the outline or table of contents in the technical appendices, including the information you collected from you community along the way.

• *Publish the draft plan*. Print enough copies of the draft plan so the work group, funding agencies, regulatory agencies (those that issue permits), private businesses, engineers, community leaders, and the general public can have a copy.

• *Review and comments.* Provide adequate time for review and comment. Thirty days is a common time period for review of the plan. Build this review time into your overall project schedule. Be sure you have not left review and comment to the last possible moment before the bulldozers are scheduled to arrive in town.

• *Prepare the final master plan.* Based on the comments you receive, revise the plan. This is the opportunity for refinements to the preferred alternative. Extensive changes mean lost time and money and probably indicates something has gone wrong in the process.

• *Resolution and Adoption*. The policy making body (city or tribal government) can adopt the master plan using a resolution or formal letter of approval. This shows funding agencies your community is behind the project.

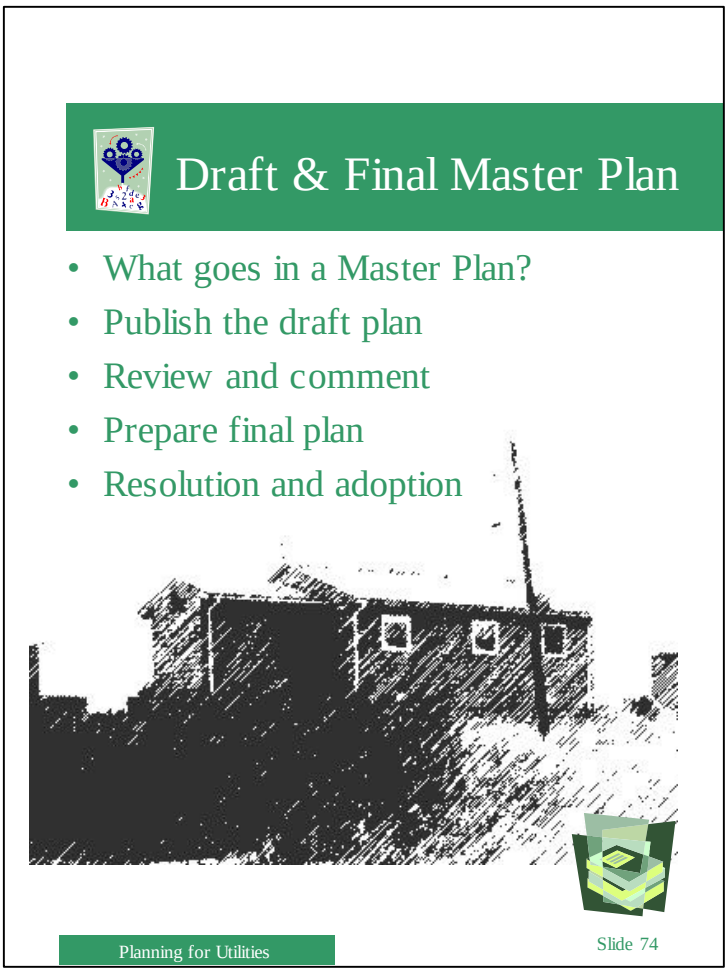
Conduct Exercise 15 What goes into the Master Plan
Purpose of Exercise - to have students draft a Master Plan Table of Contents

Draft and Final Master Plan

At this point, all information that has been collected and developed can be bound into a draft water and sewer master plan. Be sure everyone gets a look at the draft plan. Consider the following stakeholders:

- work group
- funding agencies
- agencies that consider permit applications
- private businesses
- engineers
- community leaders
- the public

Use their comments to revise the plan. While the plan is still in draft form, there is still an opportunity to refine or change aspects of the preferred alternative. The city or tribal government can adopt the final plan using a resolution or a formal letter. Funding agencies like to see this formal step to show that your community has accepted the final plan.



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- *Publish the draft plan.* Print enough copies of the draft plan so the work group, funding agencies, regulatory agencies (those that issue permits), private businesses, engineers, community leaders, and the general public can have a copy.
- *Review and comments.* Provide adequate time for review and comment. Build this review time into your overall project schedule.
- *Prepare the final master plan.* Based on the comments you receive, revise the plan. This is the opportunity for refinements to the preferred alternative. Extensive changes mean lost time and money and probably indicates something has gone wrong in the process.
- *Resolution and Adoption.* The city or tribal government can adopt the master plan using a resolution or formal letter of approval. This shows funding agencies your community is behind the project.

Goal of this Lesson

Putting a plan into action is an important part of the master planning process. Students should understand what it takes to implement a master plan.

Educational Objectives

After completing this lesson participants should be able to -

• understand what has to happen before construction, during construction, and after the project is built

•generally grasp the concepts of project management, permitting, and preventive maintenance

Schedule

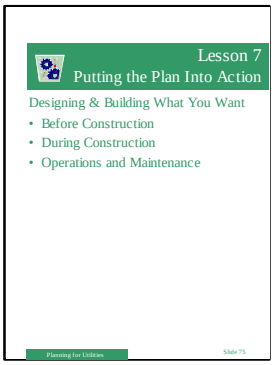
Lesson: 4 hours

Length:

- Designing & Building the System 1.5 hours
- Operating & Maintaining the System 1.5 hours
- Lesson Worksheet .5 hours
- Exercises .5 hours

Equipment/Supplies:

- Overhead projector, screen, markers and flip chart.



Overview Slide

Speaker Notes

This is an overview slide introducing the final phase in the planning process - **Putting the Plan Into Action**.

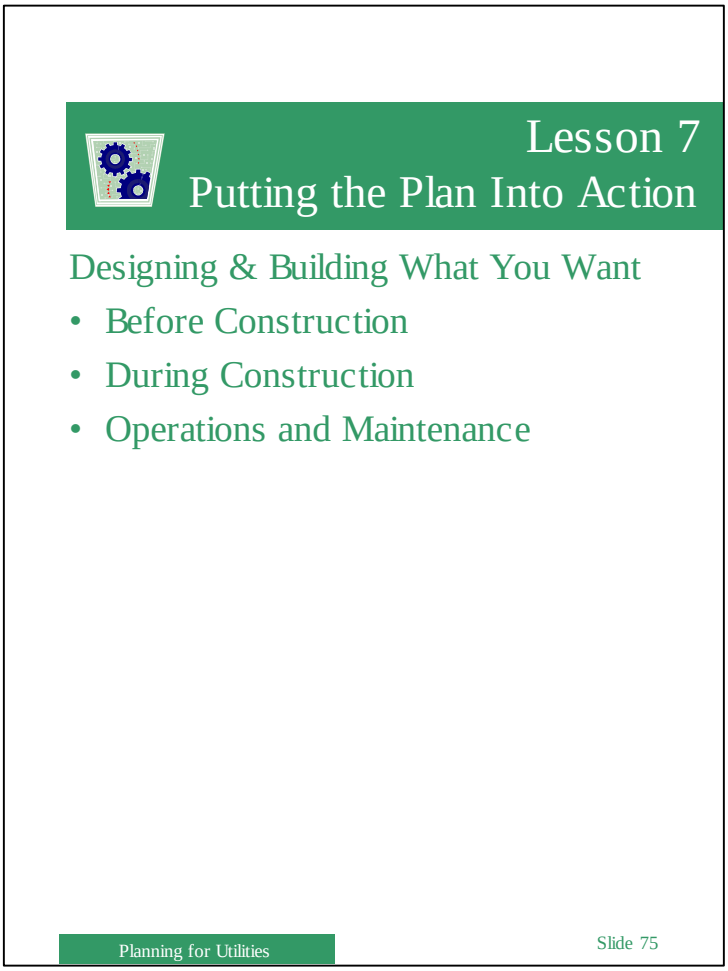
This lesson discusses the three stages of designing and building what you want in the order they typically occur:

- *Before Construction* - funding, project management, final design and permitting
- *During Construction* - community involvement, operator training, utility management team
- *Operations and Maintenance* - preventive maintenance, the "six Cs" of utility management

Lesson 7 Putting the Plan into Action

Length: 4 hours

- Designing & Building the System 1.5 hours
- Operating & Maintaining the System 1.5 hours
- Lesson Worksheet .5 hours
- Exercises .5 hours



This lesson discusses the three stages of putting your plan into action and designing and building what you want in the order they typically occur:

- *Before Construction* -funding, project management, final design and permitting
- *During Construction* - community involvement, operator training, utility management team
- *Operations and Maintenance* - preventive maintenance, the "six Cs" of utility management

Learning Objectives

Putting a plan into action is an important part of the master planning process. Students should understand what it takes to implement a master plan.

After completing this lesson participants should be able to:

- understand what has to happen before construction, during construction, and after the project is built
- generally grasp the concepts of project management, permitting, and preventive maintenance

Instructor Tips

• Don't spend too much time on this slide as additional slides follow.

• Use this slide to tell students what you are going to cover in the next unit.

•Remember the text highlighted in **green** represents potential test questions.

References

- SPG Pages 28-29
- SPG Technical Appendix C, D, and G

Overview Slide

Ideas for Real Life Examples

• Discuss a project you are familiar with. Describe what kind of task occur between the time the plan is approved and ground is broken. Point out pitfalls to avoid based on your experience.

Potential Discussion Questions

• Has anyone been involved with a project before construction, I.e. has anyone done any of these tasks? Tell us about it. What did you learn?

Speaker Notes

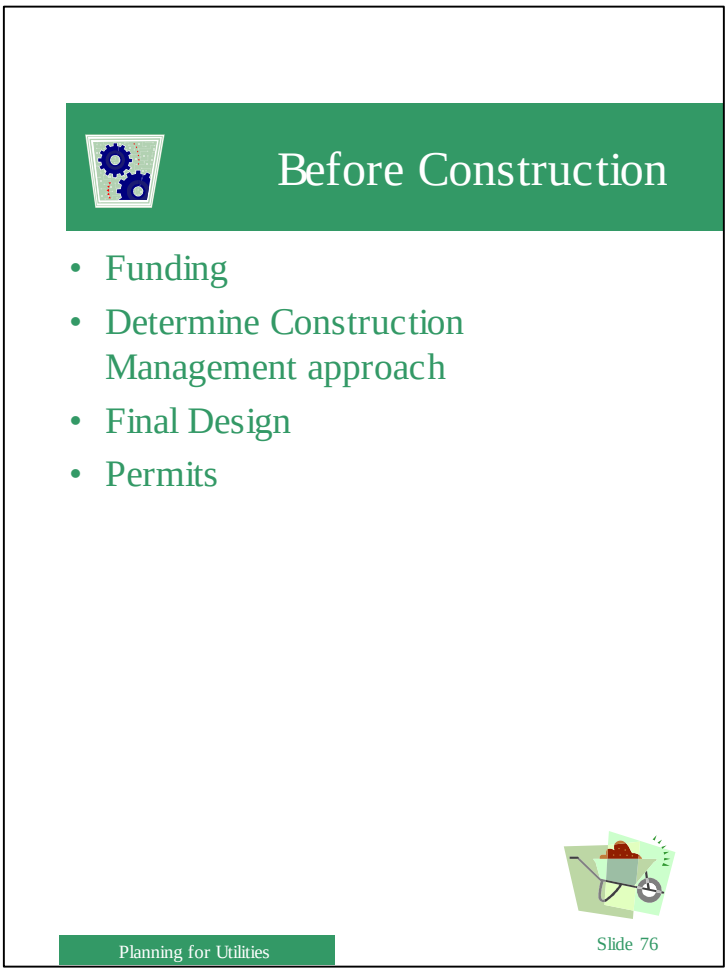
In this section briefly review the tasks that must be completed **before construction** can begin.

- *Funding* - when money is needed, where to get it, when to submit grant or funding applications
- *Project Management Approach* - whether to manage locally or contract out management
- *Final Design* - what happens during this stage and how do you keep the community involved
- *Permits* - identifying the necessary permits, when and where to get them

Before Construction

This section presents the four tasks that must be completed before construction can begin.

- *Funding.* When money is needed, where to get it, when to submit grant or funding applications.
- *Project Management Approach.* Whether to manage locally or contract out management.
- *Final Design.* What happens during this stage and how do you keep the community involved.
- *Permits.* Identifying the necessary permits, when and where to get them.



Instructor Tips

• Be sure to have current information from ADEC, ANTHC, DCED regarding funding applications and deadlines. Information changes year to year.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 28-29
- SPG Technical Appendix D.

Ideas for Real Life Examples

• Have on hand some actual agency funding applications and schedules for completion.

Potential Discussion Questions

• What happens if you fail to get the funding for building the project on time?

• Has anyone applied for funding? Can you share tips you have learned?

Speaker Notes

This section presents where to get funding, the process, and when to apply. Construction of your water or sewer system can begin once you have both the design and the **funding**. Now funding for *planning the project* is replace by funding for *building the project.*

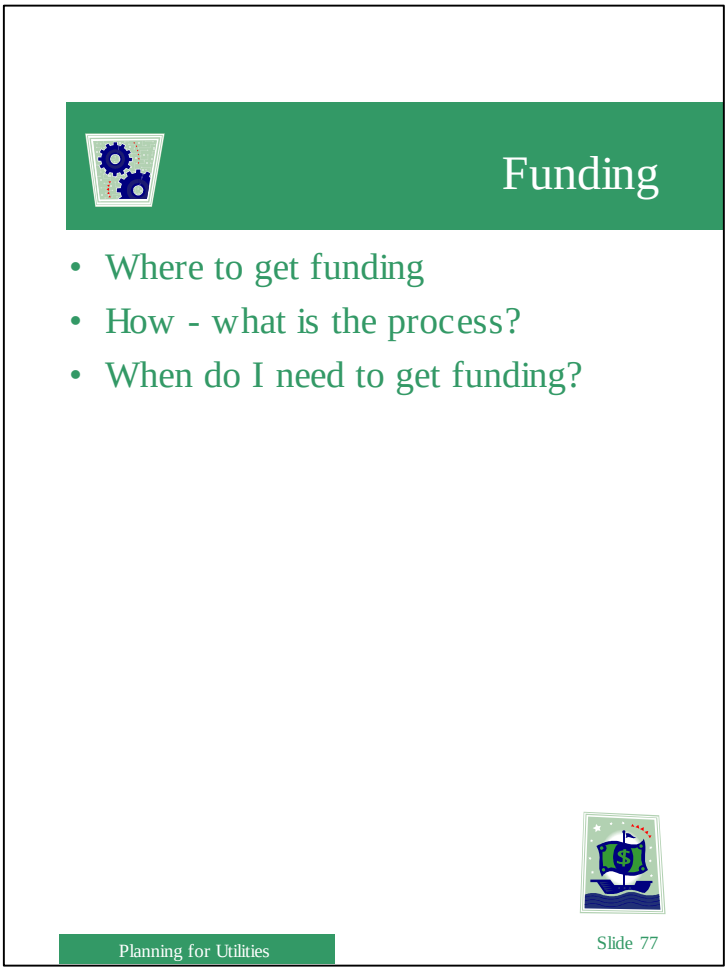
• *Where can you obtain funding*? There are several state and federal programs for funding. There are a number of State programs including the Alaska Department of Environmental Conservation Village Safe Water, Municipal Grants and Loans, and Operations Assistance programs. There are capital project matching grants from the Alaska Department of Administration and Community Development Block Grant (CDBG) and Rural Development Assistance Grant program funds from the DCED. The Alaska Municipal Bond Bank Authority also has a funding program. Some of the Federal programs include the Alaska Native Tribal Health Consortium, Community Facility Loans, Water and Waste Disposal Loans and Grants, Emergency Community Water Assistance Grants, Community Facilities Guaranteed Loans, Rural Alaskan Village Water and Waste Disposal Grants, Public Works Grants, Public Works Impact Projects, and the federal CDBG program.

• *What is the process?* Each phase of the project outlined in your final master plan requires its own funding. Be sure your community knows this important fact. Each of the funding programs has its own process and each program will have an application form. You will be required to submit both general and specific project information. For instance, details on population, engineering feasibility, number of trained personnel, project costs, O&M costs, a utility management assessment, and a resolution in support of the project from the local government will be required. Check with your local ANTHC or VSW engineer for details on the application process and submittal requirements. Most of the answers should be contained in your master plan.

• *When should we apply for funding?* Keep track of agency deadlines; they can change year to year.

Funding

Construction of your water or sewer system can begin once you have both the design and the funding. Now funding for *planning the project* is replace by funding for *building the project.*



Where can you obtain funding? There are several state and federal programs for funding. The two main source include:

- Alaska Department of Environmental Conservation Village Safe Water
- Alaska Native Tribal Health Consortium

Other sources might be:

- Municipal Grants and Loans
- Operations Assistance programs
- Community Facility Loans
- Water and Waste Disposal Loans and Grants
- Emergency Community Water Assistance Grants
- Community Facilities Guaranteed Loans
- Rural Alaskan Village Water and Waste Disposal Grants
- Capital project matching grants from the Alaska Department of Administration
- Rural Development Assistance Grant and
- federal CDBG program

You should know that the funding sources, amounts available, and requirements can change from year to year

What is the process? Each phase of the project outlined in your final master plan may need its own funding. Each of the funding programs has its own process and each program will have an application form. Check with your local ANTHC or VSW engineer for details on the application process and submittal requirements. Most of the answers should be contained in your master plan.

When should we apply for funding? Keep track of agency deadlines; they can change year to year. This will be your responsibility – to stay on agency mailing/notification lists and to contact the ANTHC or VSW project engineers on a regular basis regarding application deadlines.

Instructor Tips

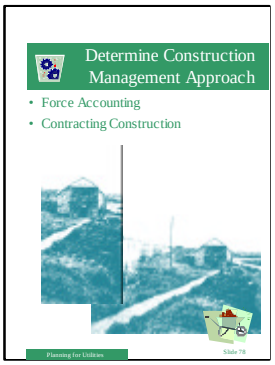
• Don't spend too much time on this slide as additional slides follow.

• Use this slide to tell students what you are going to cover in the next unit.

• In this section, you will do the exercise FIRST.

References

• SPG Pages 28-29



Exercise 16

Overview Slide

Ideas for Real Life Examples

• Define the difference between the two approaches using real projects you are familiar with.

Potential Discussion Questions

• Does anyone have experience using either of these construction management approaches? If so, come back to that person at the end of the lesson and get their story.

Speaker Notes

This is an overview slide and introduces the approaches to **construction management**.

The amount of control your community wants determines the **construction management approach** it takes. For instance, your community can build the project itself hiring its own workers (called "force accounting") or by contracting with a construction firm.

Both systems have a number of advantages and disadvantages.

Conduct Exercise 16 Project Management Options

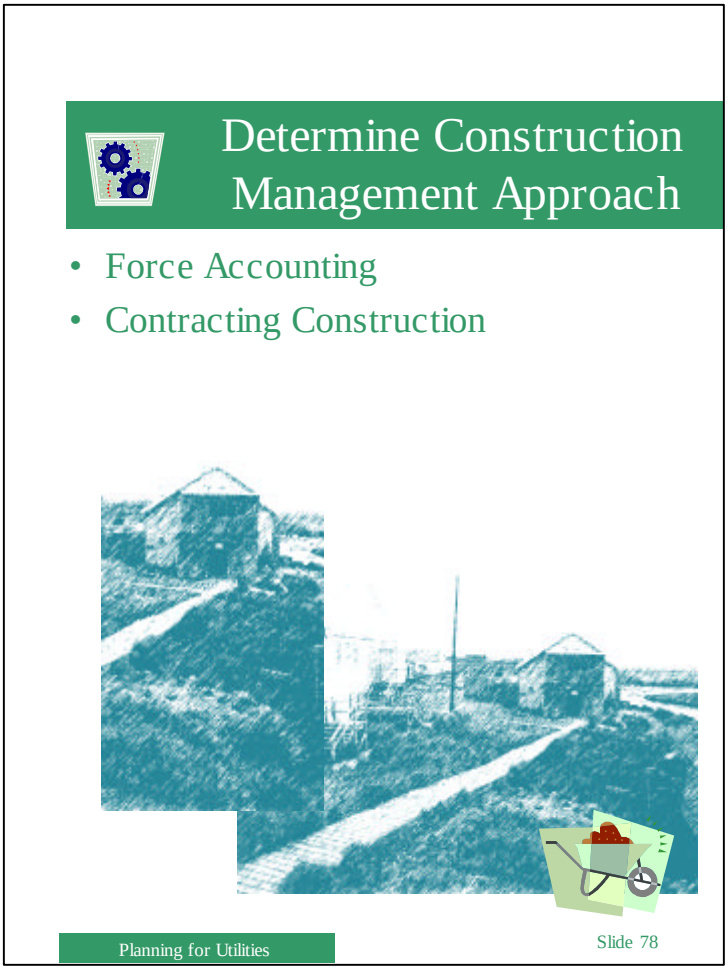
[DO THE EXERCISE BEFORE COMPLETING THE REMAINING SLIDES]

Purpose of Exercise - to have students compare two project management approaches

Determine Construction Management Approach

The amount of control your community wants determines the **construction management approach** it takes. For instance, your community can build the project itself hiring its own workers (called "force accounting") or by contracting with a construction firm.

Both systems have a number of advantages and disadvantages.



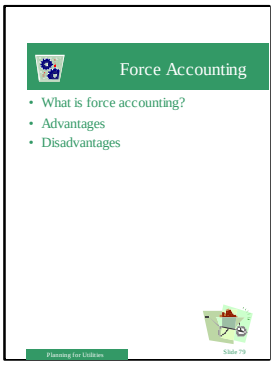
Instructor Tips

• Use this slide to describe the pros and cons of force accounting.

• Students should be able to define force accounting.

References

- SPG Pages 28-29
- SPG Technical Appendix D.
- RUBA Financial Management Course



Ideas for Real Life Examples

• Have some numbers on how many communities are currently using this method of project management in Alaska.

• Describe a real project where you have used force accounting. Relate the pros and cons of your experience.

Potential Discussion Questions

• Has anyone worked on a project that used force accounting? How did it work or not work?

Speaker Notes

Now that the students have come up with their own ideas regarding the advantages and disadvantages of the two project management approaches, present the features of **Force Accounting**.

•*What is force accounting*? Community builds the project itself, hiring their own workers.

•*Advantages*

- The community has direct control over the project.
- There are opportunities to employ and train local residents.
- The community makes decisions regarding wages, hiring practices and working hours.
- Money (wages) stays in the community adding to the local economy.

•*Disadvantages*

- There may be pressure on local government because the community is responsible for keeping the project on schedule and within budget. This requires a good payroll and accounting system. Personnel may need training at the community's expense.
- Not every community has local labor, management experience, or equipment.
- Trained people must maintain the construction equipment. There is no one to call to take over.
- Good project management is needed throughout the project. You need personnel who will stick it out over the duration of the project.

Force Accounting

What is force accounting?
Community builds the project itself, hiring their own workers.

Advantages

- The community has direct control over the project.
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- Money (wages) stays in the community adding to the local economy.

Disadvantages

- There may be pressure on local government because the community is responsible for keeping the project on schedule and within budget.
- This requires a good payroll and accounting system.
- Personnel may need training at the community' s expense.
- Not every community has local labor, management experience, or equipment.
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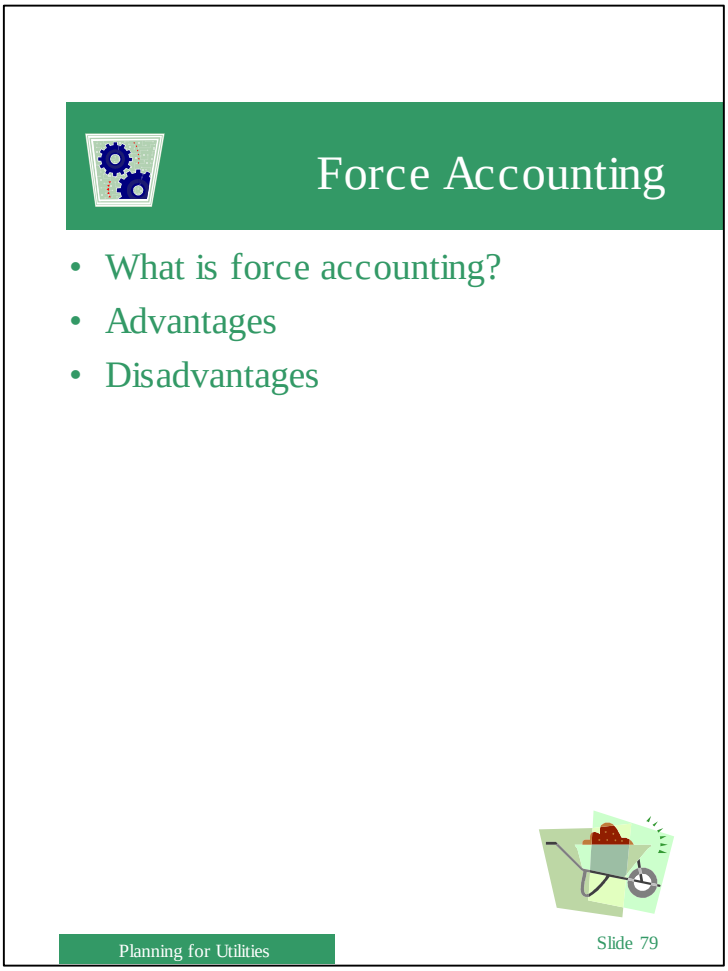


Good project management is needed throughout the project. Regardless of the approach you select, you need trained personnel who will stick it out over the duration of the project.

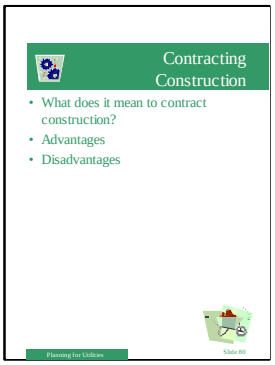
Instructor Tips

• Use this slide to describe the pros and cons of contracting construction.

• Students should be able to define contract construction.

References

- SPG Pages 28-29
- SPG Technical Appendix D



Ideas for Real Life Examples

• Have some numbers on how many communities are currently using this method of project management in Alaska.

• Describe a real project where you have used contract construction. Relate the pros and cons of your experience.

Potential Discussion Questions

• Has anyone worked in a community where construction was contracted out? How did it work?

Speaker Notes

In this section present the features of **Contracting Construction**.

•*What does it mean to contract construction*? Contracting means a private construction company comes into the community to build the system.

•*Advantages*

• There is less impact and stress on the community government, accounting systems, and management. The company has its own accountants and construction supervisors.

• Contracts can include provisions requiring local hire.

• Professional companies usually do the job well and quickly. They are motivated to get the job done (time is money, reputations at stake).

•*Disadvantages*

• There is less local control and decision making power. Community is not in the decision-making "loop."

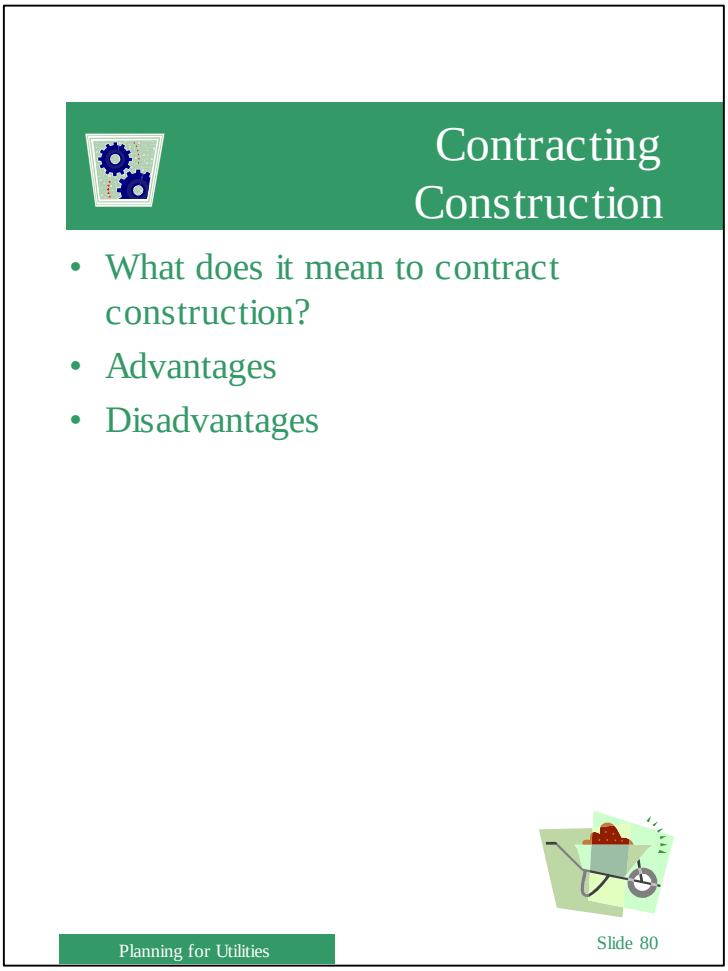
• Local hire might not be used. There is less opportunity to train local residents.

• There may be fewer benefits to the local economy (jobs, cash flow in the community is not as great).

• Money leaves the community (workers do not live in the community and spend their money back home).

Contracting Construction

What does it mean to contract construction? Contracting means a private construction company comes into the community to build the system.



Advantages

- There is less impact and stress on the community government, accounting systems, and management. The company has its own accountants and construction supervisors.
- Contracts can include provisions requiring local hire.
- Professional companies usually do the job well and quickly. They are motivated to get the job done (time is money, reputations at stake).

Disadvantages

- There is less local control and decision making power. Community is not in the decision-making "loop."
- Local hire might not be used. There is less opportunity to train local residents.
- There may be fewer benefits to the local economy (jobs, cash flow in the community is not as great).
- Money leaves the community (workers do not live in the community and spend their money back home).

Instructor Tips

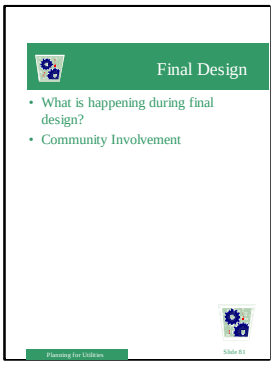
• Briefly review some of the things you might see in final design plans.

• Students should now understand the difference between preliminary design (engineering) and final design.

• Remember that text highlighted in **green** represents potential test questions.

References

• SPG Pages 28-29



Ideas for Real Life Examples

• Copies of master plan newsletters or flyers that have been used in other projects to update the community during final design.

• Show a copy of final design plans for a real project. What changed between preliminary design and final design.

Potential Discussion Questions

• Why should the community be involved in reviewing the final design?

Speaker Notes

Explain what is happening during the **final design** stage of putting the plan into action.

• *What happens during final design?*

Final design means the design of the water and sewer system is completed by an engineer based upon the Master Plan, the CIP, and the preliminary engineering. The final design plans are used by the construction company to actually build the system.

• *What about community involvement during this stage of the process?*

While final design plans are being developed, the work group needs to remain involved. Discussions with the engineer should still be taking place. Involving the work group ensures that local needs and concerns are continued to be addressed in the final design. If there are design changes from the master plan, the engineer needs to provide the community with written justification.

Some effective public involvement techniques for keeping the work group running AND the community informed include:

• Newsletters to each boxholder and/or school child in the community. The newsletter should update residents on the final design features - maps and drawings or photographs should be included..

• Public meeting with the work group where final design plans can be reviewed. Use existing forums like village or city council meetings, school open houses, etc.

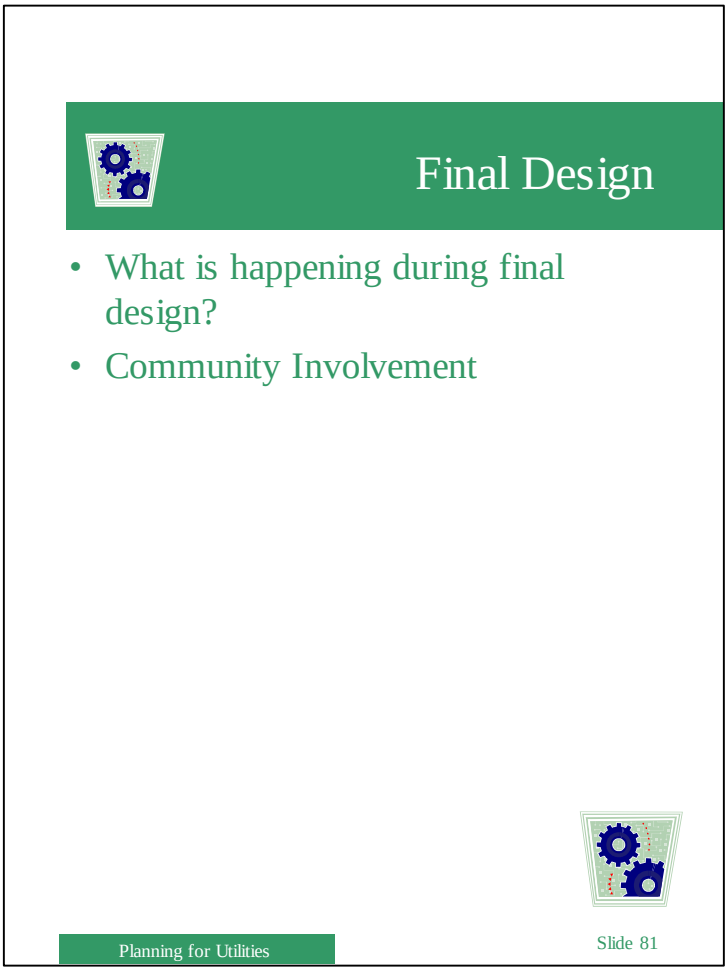
Final Design

What happens during final design?

Final design means the design of the water and sewer system is completed by an engineer based upon the Master Plan, the CIP, and the preliminary engineering. The final design plans are used by the construction company to actually build the system.

What about community involvement during this stage of the process?

While final design plans are being developed, the work group needs to remain involved. Discussions with the engineer should still be taking place. Involving the work group ensures that local needs and concerns continue to be addressed in the final design. If there are design changes from the master plan, the engineer needs to provide the community with written justification.



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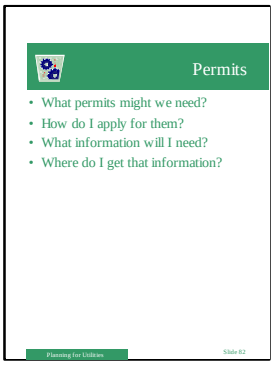
- Newsletters to each boxholder and/or school child in the community. The newsletter should update residents on the final design features - maps and drawings or photographs should be included.
- Public meeting with the work group where final design plans can be reviewed. Use existing forums like village or city council meetings, school open houses, etc.

Instructor Tips

• Use this slide to discuss the likely permits that will be needed and pros and cons for making the permit process flow more smoothly.

References

- SPG Pages 29
- SPG Technical Appendix C.
- State and Federal permit applications, CPQ



Exercise 17

Ideas for Real Life Examples

• Have on hand some sample state and federal agency permit applications, coastal project questionnaire, etc.

• Discuss a project that had trouble getting permits. What could have been done better?

Potential Discussion Questions

• How many have been involved with the permitting process? What did you learn from it? What kinds of permits did you have to obtain? What type of information did you need to fill out the applications? Was the information you needed found in your master plan?

Speaker Notes

In this section review **permitting**. Go over the permits that might be needed, how to apply for them, information you need to fill out the applications, and where to get that information.

• *What permits might be needed*? You might need several permits from different agencies for different parts of the project. Even though there are as many as 25 possible permits out there, it is unlikely that all will be needed for your project. Early in the planning process, the community has been working with the state and federal agencies through the work group and planning coordinator. These "stakeholders" have been involved in goal-setting and collecting information, alternatives development and refinement, and final selection of the preferred alternative. Permit needs were identified and data collected for the master plan that can now be used in the permit application.

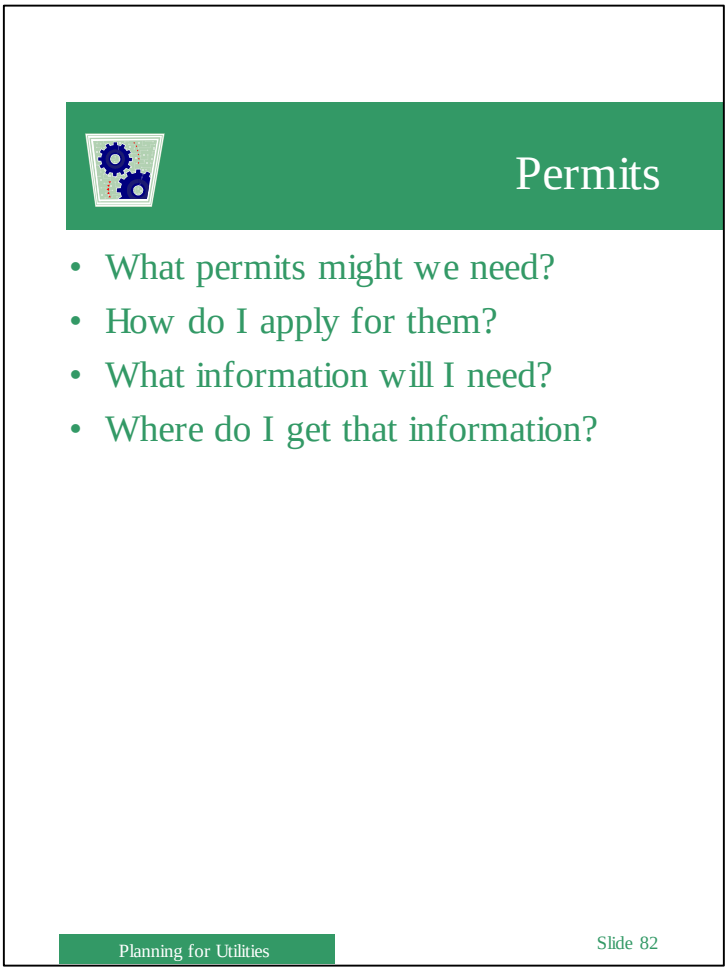
• *How do you apply for them*? Using Technical Appendix C of the SPG, you can check off which permits might apply to your project and begin contacting the proper agency and gathering the application forms and information you need. The Division of Governmental Coordination can help you determine which permits you might need.

• *What information do you need for the permit application and where do you get that information?* Your draft master plan will likely contain most or all the information you will need for the application. For example, if in the draft master plan you have identified an alternative that requires gravel or dirt to be put in a wetland or along the edge of a pond or stream, you will need a permit. The plan should provides you with the location of the gravel placement and the amount (engineering details). The permit application will require these kinds of details.

Conduct Exercise 17 Permitting

Purpose of Exercise - to review what triggers permitting requirements.

Permits



What permits might be needed? You might need several permits from different agencies for different parts of the project. Even though there are as many as 25 possible permits out there, it is unlikely that all will be needed for your project. Early in the planning process, the community has been working with the state and federal agencies through the work group and planning coordinator. These "stakeholders" have been involved in goal-setting and collecting information, alternative development and refinement, and final selection of the preferred alternative. Permit needs were identified and data collected for the master plan that can now be used in the permit application.

How do you apply for them? Using Technical Appendix C of the Sanitation Planning Guidebook, you can check off which permits might apply to your project and begin contacting the proper agency and gathering the application forms and information you need. The Division of Governmental Coordination can help you determine which permits you might need.

What information do you need for the permit application and where do you get that information? Your draft master plan will likely contain most or all the information you will need for the application. For example, if in the draft master plan you have identified an alternative that requires gravel or dirt to be put in a wetland or along the edge of a pond or stream, you will need a permit. The plan should provide you with the location of the gravel placement and the amount (engineering details). The permit application will require these kinds of details.

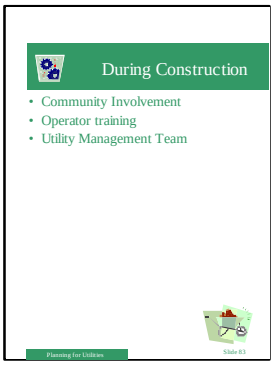
Instructor Tips

• Don't spend too much time on this slide as additional slides follow.

• Use this slide to tell students what you are going to cover in the next unit.

References

• SPG Page 29



Overview Slide

Ideas for Real Life Examples

• Discuss a construction project you are familiar with. What kinds of tasks go on during construction.

Potential Discussion Questions

• How many students have been involved with a project during actual construction?

• What role did you play?

Speaker Notes

This is an overview slide that introduces the key elements of putting the plan into action **during construction**. Once construction begins, there are three important points to remember:

• *Community Involvement* - keeping folks informed so there are few surprises or emergencies

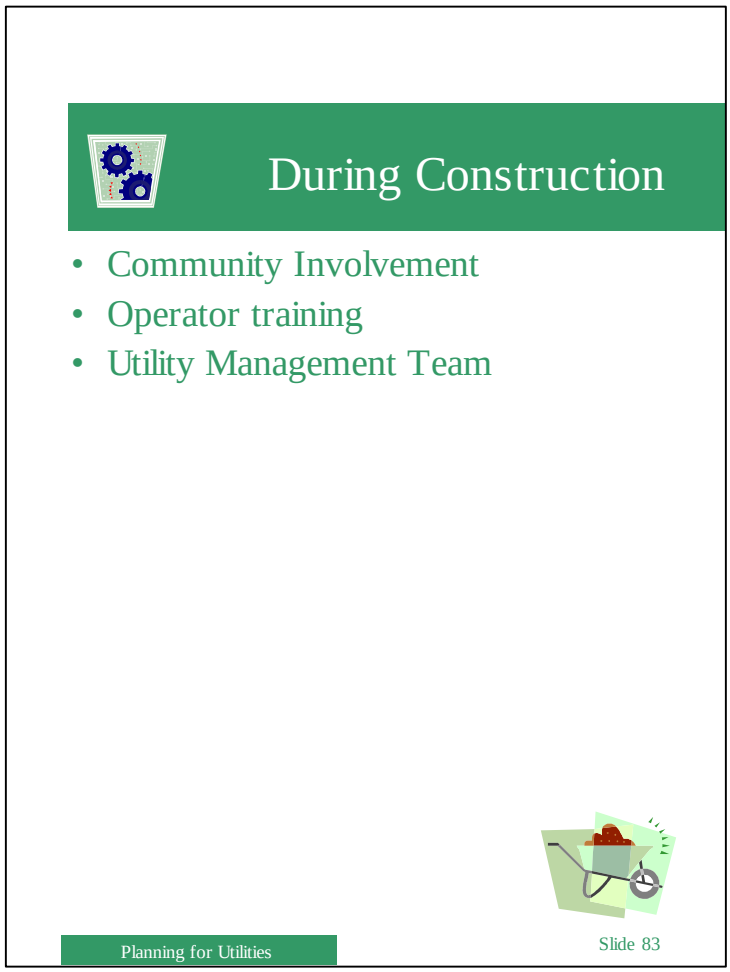
• *Operator Training* - begin training for operations now

• *Utility Management Team* - plan how the system is to pay for itself

During Construction

Once construction begins, there are three important points to remember:

- *Community Involvement.* Keeping folks informed so there are few surprises or emergencies.
- *Operator Training.* Begin training for operations now.
- *Utility Management Team.* Plan how the system is to pay for itself.



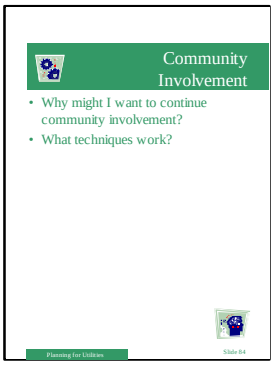
Instructor Tips

• Refer students to Appendices that include more details on public involvement techniques. These were covered in greater depth in Lesson 2.

• Construction causes inconveniences to the public. Use this slide to discuss why and how public involvement should continue through construction.

References

- SPG Appendix A.
- SPG Technical Appendix A.



Ideas for Real Life Examples

• Discuss a construction project you are familiar with where the public was not kept informed? What happened?

Potential Discussion Questions

• What can happen when you forget to involve the community during construction?

Speaker Notes

This section details **community involvement** during the construction of the system. Go over why you want to continue to involve and inform residents and present some of the public involvement techniques that work.

• *Why continue with public involvement*? Construction in a community can be very disruptive to resident's lifestyles, local business, and to local government. When a construction project starts everyone is affected. Construction means movement of dirt, hauling and laying of pipe, truck traffic, dust, noise and a general increase in the level of activity not otherwise experienced in most small communities. This increase in activity could be a shock or cause inconvenience to some residents. Normal routes (trails, pathways, roads) from houses to the store, post office, and health clinic, for example, could be temporarily changed. What's the solution? Keep people informed of what is going on.

• *What public involvement techniques work*? Continue to use the work group and your planning coordinator to get the word out about what is going to happen during construction. Hold public meetings before construction begins. Go over the construction schedule with the community and gather their ideas on how to make it compatible with local lifestyles. Continue to hold meetings as each phase comes on line. If there are planned breaks in power service, closures of roads and trails, put this information on the radio and post notices in the clinic, city/village office, post office. If your community likes newsletters or flyers, use this medium to get the word out. Don't wait until the bulldozers arrive! Do it early.

Community Involvement

Continue to involve and inform residents during this stage.

Why continue with public involvement? Construction in a community can be very disruptive to resident' s lifestyles, local business, and to local government. When a construction project starts everyone is affected. Construction means movement of dirt, hauling and laying of pipe, truck traffic, dust, noise and a general increase in the level of activity not otherwise experienced in most small communities. This increase in activity could be a shock or cause inconvenience to some residents. Normal routes (trails, pathways, and roads) from houses to the store, post office, and health clinic, for example, could be temporarily changed.

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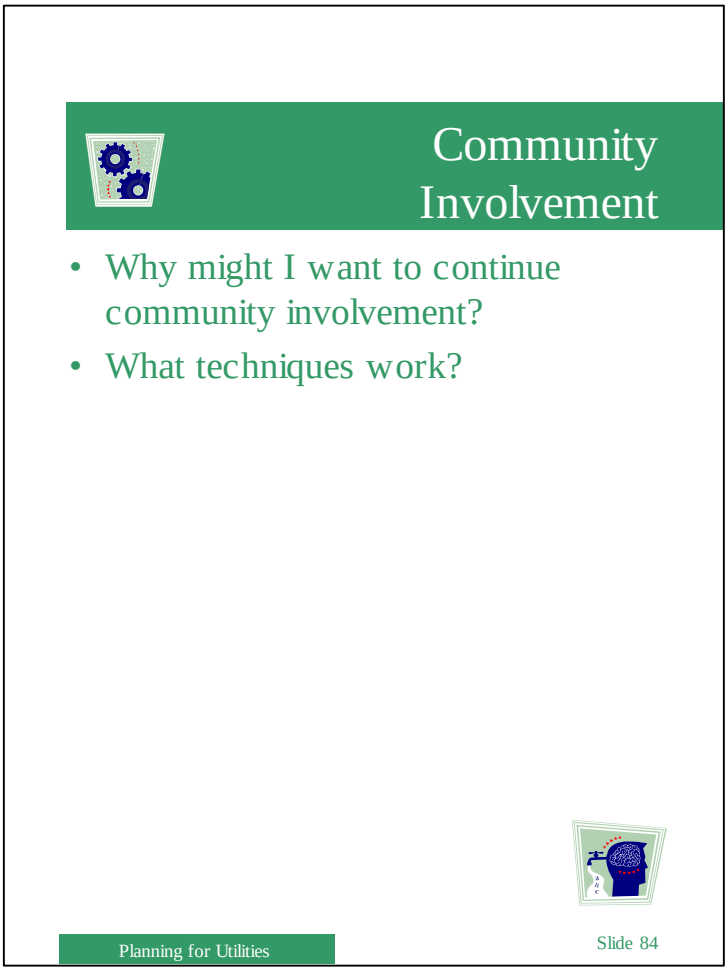


What public involvement techniques work? Continue to use the work group and your planning coordinator to get the word out about what is going to happen during construction. Hold public meetings before construction begins. Go over the construction schedule with the community and gather their ideas on how to make it compatible with local lifestyles. Continue to hold meetings as each phase comes on line. If there are planned breaks in power service, closures of roads and trails, put this information on the radio and post notices in the clinic, city/village office, post office.

If your community likes newsletters or flyers, use this medium to get the word out. Don' t wait until the bulldozers arrive! Do it early.

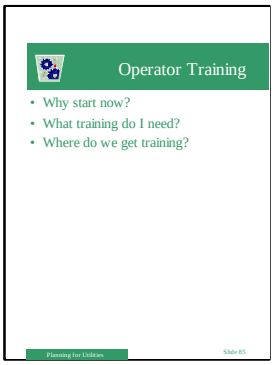
Instructor Tips

• Use this slide to discuss operator training. Do not wait until the system is up and running!!

• Remember that text highlighted in **green** represents potential test questions.

References

• SPG Pages 28-29



Ideas for Real Life Examples

• Discuss a situation you are familiar with a situation where the operator had poor training or was not trained in time so he/she was not up to speed when the new system came on line.

Potential Discussion Questions

• Is anyone familiar with a situation where the operator had poor training or was not trained in time so he/she was not up to speed when the new system came on line.

Speaker Notes

This section presents details on **operator training**.

Review with students why it is never too early to begin training utility operators.

• *Why start now?* Start Early. Do not wait until construction is complete and the system is operational to begin training. They need to be ready to go when the system comes on line. Operator training can really begin once the preferred alternative has been selected and the final master plan completed. There is plenty of time while the CIP and final design is being worked on to get those operators trained.

• *What kind of training will they need*? This will depend on the system you select and develop as part of the final master plan.

• *Where do we get the training*? DCED currently offers a range of utility operator training courses. They have plans to continue with this training and expanding the operator training series in the future. Other state and federal agencies may offer training.

Operator Training

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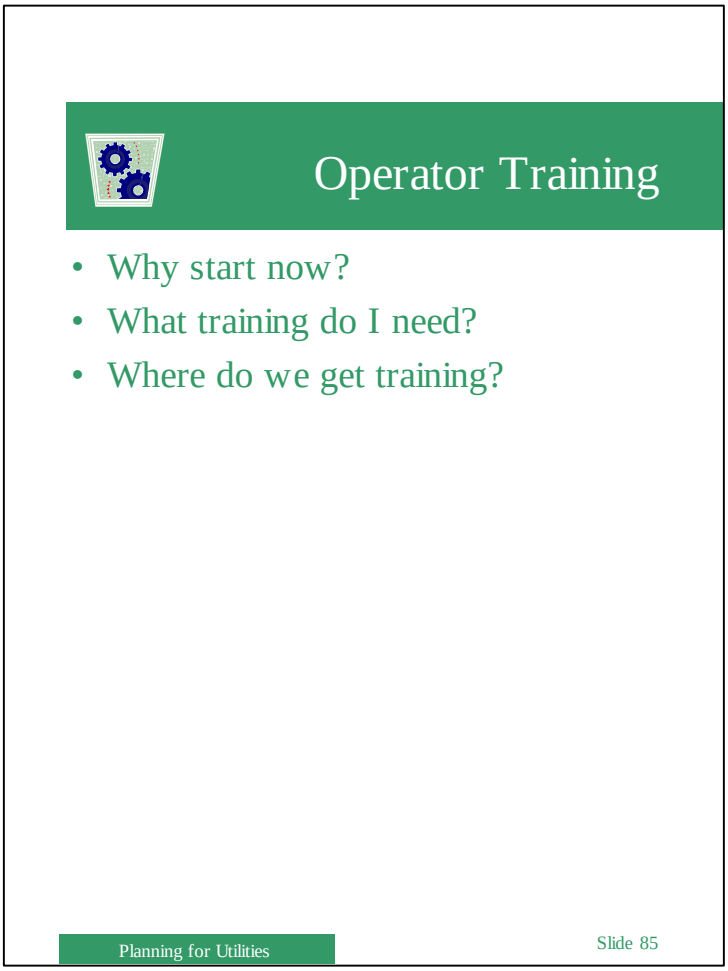

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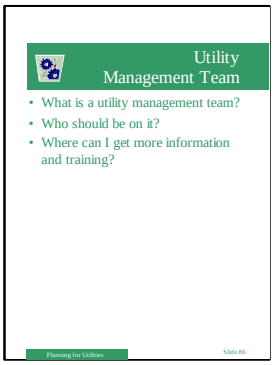
Instructor Tips

• Use this slide to explain what a utility management team is and when and why to form one.



Ideas for Real Life Examples

• Talk about a project or community where the project was built and then the community did not have the people in place to run what they got or the people they had did not know their roles.

Potential Discussion Questions

• Who runs the utility in your community. Do you have an operator?, a manager?, a bookkeeper?, what role does the Council play?

Speaker Notes

This section presents details on establishing a **utility management team**.

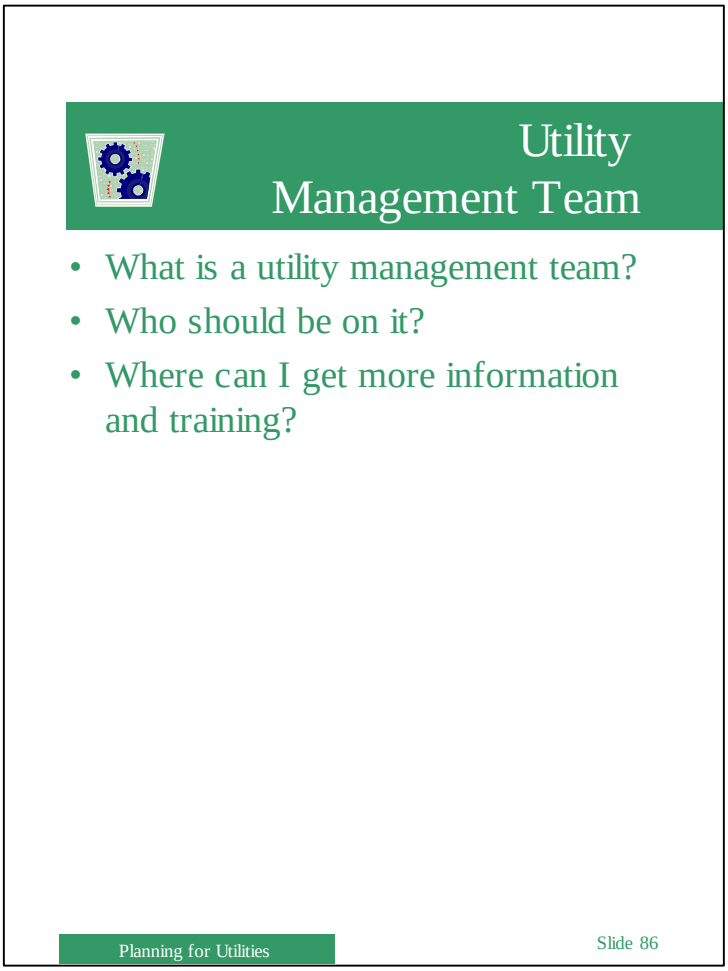
• *What is a utility management team?* It takes a team of people to run a utility. Keeping the system running, managing people, managing money, governing each take people in the city or village to take care of daily operations and make decisions that affect the success of the utility. During construction is a good time to start thinking about the skills of the people you have, make sure they have the training they will need, and that they understand what their roles will be. This needs to happen well in advance of when the system is up and running.

• *Who should be on it?* Policy-making body, utility manager, operator, accountant, citizens (resident, business owner).

• *Where can I get more information and training?* RUBA, ANTHC, ADEC, RDA

Utility Management Team

This section presents details on establishing a **utility management team**.



What is a utility management team? It takes a team of people to run a utility. Keeping the system running, managing people, managing money, governing each take people in the city or village to take care of daily operations and make decisions that affect the success of the utility.

During construction is a good time to start thinking about the skills of the people you have, make sure they have the training they will need, and that they understand what their roles will be. This needs to happen well in advance of when the system is up and running.

Who should be on it? The policy-making body, utility manager, operator, accountant, citizens (resident, business owner) is a potential member of the team.

*Where can I get more information and training?*Contact the following agencies for information on forming a team:

- Rural Utility Business Advisor program (RUBA)
- Alaska Native Tribal Health Consortium (ANTHC)
- Alaska Department of Environmental Conservation (ADEC)
- Rural Development Authority (RDA)

Instructor Tips

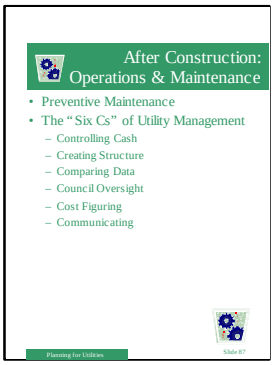
• Don't spend too much time on this slide as additional slides follow.

• Use this slide to tell students what you are going to cover in the next unit.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 31-34
- SPG Technical Appendix H



Overview Slide

Ideas for Real Life Examples

• Relay a story about a community where they ran into problems once their system was up and running. What happened? Why? Try to relate the story to the types of topics to be discussed in this lesson.

Potential Discussion Questions

• Has anyone had operating and maintenance problems with their system - remember operation and maintenance means more than pipes and pumps.

Speaker Notes

This is an overview slide that introduces key points to be covered regarding **operating and maintaining your water and wastewater system**. Operation and maintenance of your water and/or sewer system is more than fixing leaks, repairing pipes, and changing filters at the water treatment plant. Operation and maintenance is all of these things and more - it's bookkeeping, paying employees, setting and collecting fees, monitoring the system AND taking care of the system.

Briefly review the two main parts of the lesson:

- *Preventive Maintenance* - routine maintenance in order to avoid BIGGER problems
- *The "Six Cs" of Utility Management* - ADEC's rules of thumb for successful O&M

After Construction: Operation and Maintenance

Operation and maintenance of your water and/or sewer system is more than fixing leaks, repairing pipes, and changing filters at the water treatment plant. Operation and maintenance is all of these things and more – it is bookkeeping, paying employees, setting and collecting fees, monitoring the system AND taking care of the system.

There are two main topics discussed in this section:

- *Preventive Maintenance* -routine maintenance in order to avoid BIGGER problems
- *The "Six Cs" of Utility Management* – the ADEC rules of thumb for successful O&M

Instructor Tips

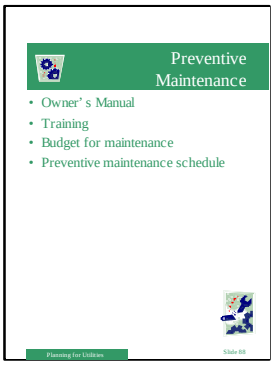
• Use this slide to talk about preventive maintenance.

• Remind students that various organizations have training programs for operators.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 28-29
- Community Sanitation Master Plan example.



Ideas for Real Life Examples

• Tell a story about an improvement that was not properly maintained. What happened? How could it have been avoided.

Potential Discussion Questions

• Is anyone aware of a story where proper preventive maintenance was not conducted? What happened? How could it have been avoided.

Speaker Notes

This section details **preventive maintenance**.

Preventive maintenance is about using the owner's manual, training personnel to take care of the system, and having a maintenance budget established. It's also about conducting routine maintenance in order to avoid or minimize the chance of bigger and more costly repairs later.

•*Owner's Manual*. Successful operations and maintenance means operators follow the owner's manual. If the system did not come with one, contact the contractor and engineer to obtain one. The manual should describe procedures for ensuring health and safety in utility operation.

•*Training*. If the utility operator does not understand the system, send them to training before you take over the system.

•*Budget for Maintenance*. Prepare and adopt a budget strictly for operation and maintenance purposes. It's much better to have the money already budgeted and available when the system breaks down than to try to find emergency funding.

• *Preventive Maintenance Schedule*. Prepare a schedule in accord with the owners manual and engineer's recommendations for conducting routine preventive maintenance.

Preventive Maintenance

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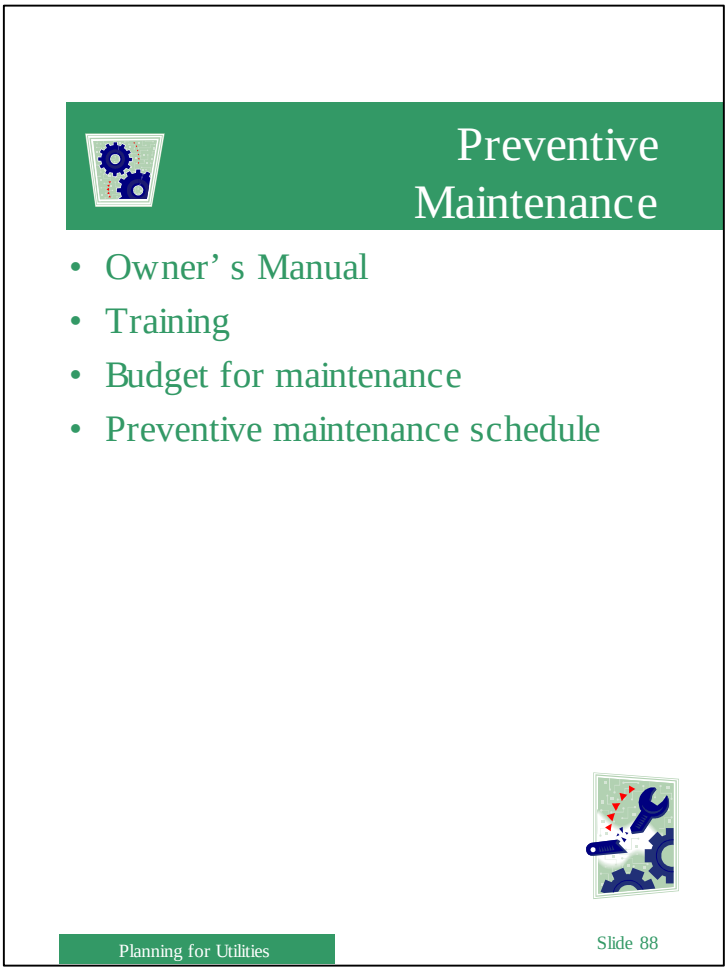

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Instructor Tips

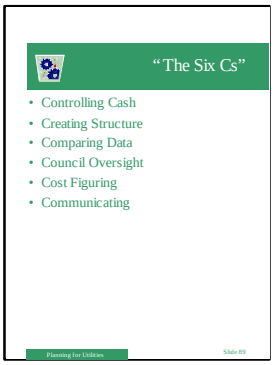
• Don't spend too much time on this slide as additional slides follow.

• Use this slide to tell students what you are going to cover in the upcoming unit.

• Remember that text highlighted in **green** represents potential test questions.

References

- SPG Pages 31-34
- SPG Technical Appendix H.
- RUBA Financial Management I and II



Overview Slide

Ideas for Real Life Examples

• Think of an example where a community did not perform one of these functions well. What happened? How could it have been prevented.

• Think of a situation where performing one of these functions well saved time, money, or kept the system operating.

Potential Discussion Questions

• Think about your role on dealing with the utility, under which bullet do you think your job falls? Go around the room and get people to talk about what they do in their job and how it relates to these 6 accounting functions.

Speaker Notes

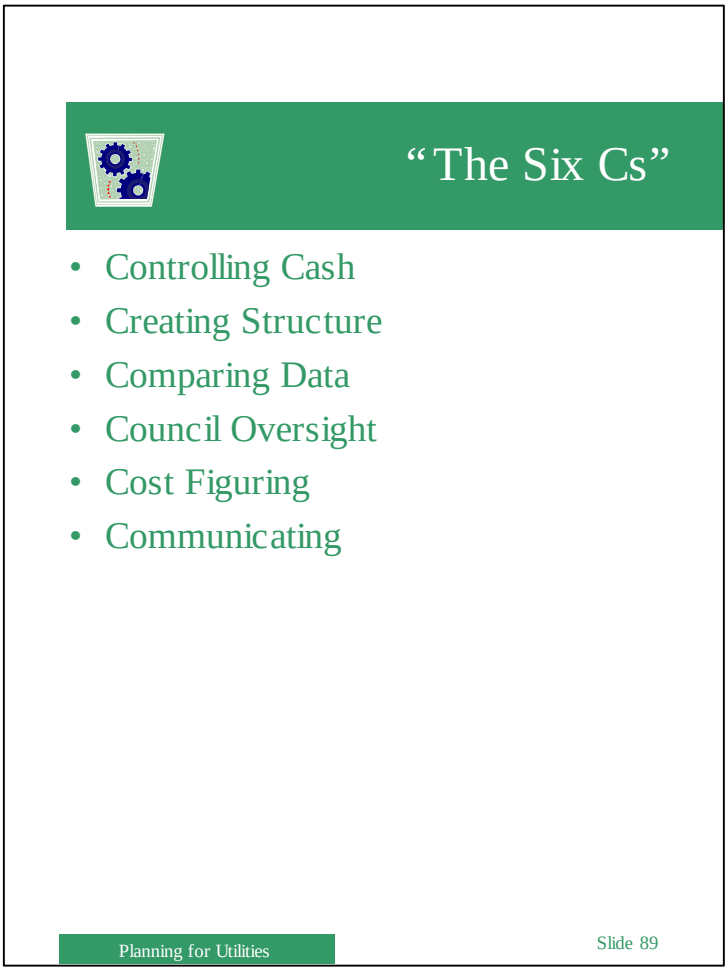
This is an overview slide introducing the guide books recommendations for successful financial management of utility operation and maintenance called the **"six Cs" of utility management**.

Review the six critical tasks a community should be able to perform before a new water and sewer system comes on line.

- *Controlling Cash - funds and assets*
- *Creating Structure -good record-keeping*
- *Comparing Data - from one year to the next*
- *Council Oversight - ultimate responsibility*
- *Cost Figuring - setting rates*
- *Communicating - keep everyone informed*

The Six "Cs"

The Alaska Department of Environmental Conservation has developed a set of recommendations for successful financial management of utility operation and maintenance. It is called the "six Cs" of utility management. These could be considered six critical tasks a community should be able to perform before a new water and sewer system comes on line.

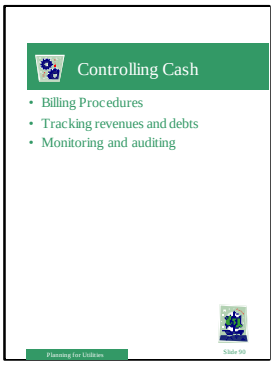


- *Controlling Cash - funds and assets*
- *Creating Structure -good record-keeping*
- *Comparing Data - from one year to the next*
- *Council Oversight - ultimate responsibility*
- *Cost Figuring - setting rates*
- *Communicating - keep everyone informed*

Instructor Tips

• Use this slide to talk about cash control procedures.

• Students should understand what is meant by the term "cash control" and why it is important.



Ideas for Real Life Examples

• Relate a story where cash control was done poorly. Was money missing or just lost in an accounting black hole. Did the utility not pay a bill? Unable to order fuel?

Potential Discussion Questions

• Are there any accountants in the room? How about utility managers that are aware of their control on cash? What procedures do you use? Have you had problems? Any tips you can share with others in the class?

• Can you think of any reasons why controlling cash might be important?

Speaker Notes

This section presents details on **controlling cash**.

In order to protect funds and assets of the water and sewer system the following procedures are recommended:

• *Owner's Manual* - this should come with the system selected/built for the community and should describe the continuous cycles of preventive maintenance and procedures for ensuring health and safety.

• *Bill-approval procedures* - because different people share the responsibility of preparing/signing checks and approving bills and payroll records it is necessary to clearly describe how billings are to be handled.

• *Revenue, accounts receivable and debt-tracking procedures* - schedule these by source, interest rate, and due dates.

• *Use of outside monitors and auditors* - examine records and assets annually.

• *Established cash control procedures* - written receipts for each payment made, ledger to track sales, and safely store cash for deposit.

Controlling Cash

In order to protect funds and assets of the water and sewer system the following procedures for **controlling cash** are recommended:

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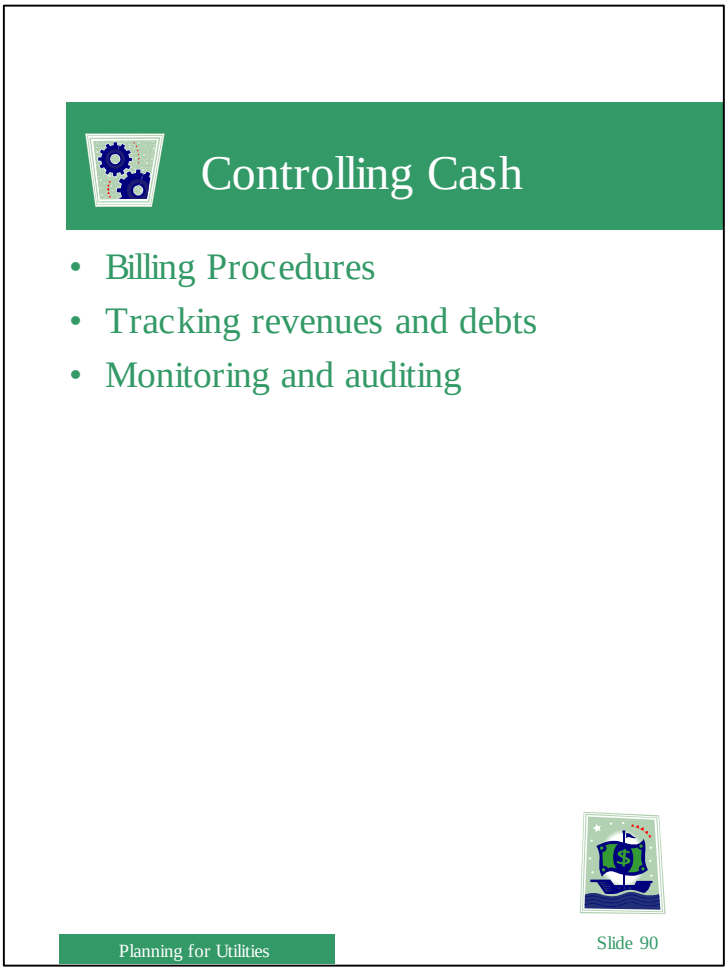


Use of outside monitors and auditors - examine records and assets annually.

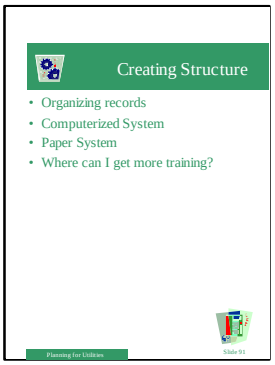
Established cash control procedures- written receipts for each payment made, ledger to track sales, and safely store cash for deposit.

Controlling cash presents special problems because coins and bills can be handled without leaving any record on paper. If doing a coin exchange or selling miscellaneous items make sure a ledger is kept to track sales. Store cash in a locked, secure safe after it has been counted but before it is deposited in a bank.

Instructor Tips

• Use this slide to talk about importance of having organized records and a structure or procedures for keeping good records.

• Student should understand how record keeping can help keep the utility out of trouble.



Ideas for Real Life Examples

• Relate a story where records were kept poorly. What happened. How did the poor record keeping impact the utility? The citizens?

Potential Discussion Questions

• Are there any accountants in the room? How about utility managers that are aware of their record keeping system? How do you keep track of your records? Have you had problems? Any tips you can share with others in the class?

• Can you think of any reasons why keeping good records might be important?

Speaker Notes

This section presents details on **creating structure**. In order to give meaning to the records your community keeps, you need to create structure.

• *Organizing Records.* Records in of themselves are merely pieces of paper. They must be put together to tell a story of how you are doing.

Creating an organizational system can track the following information:

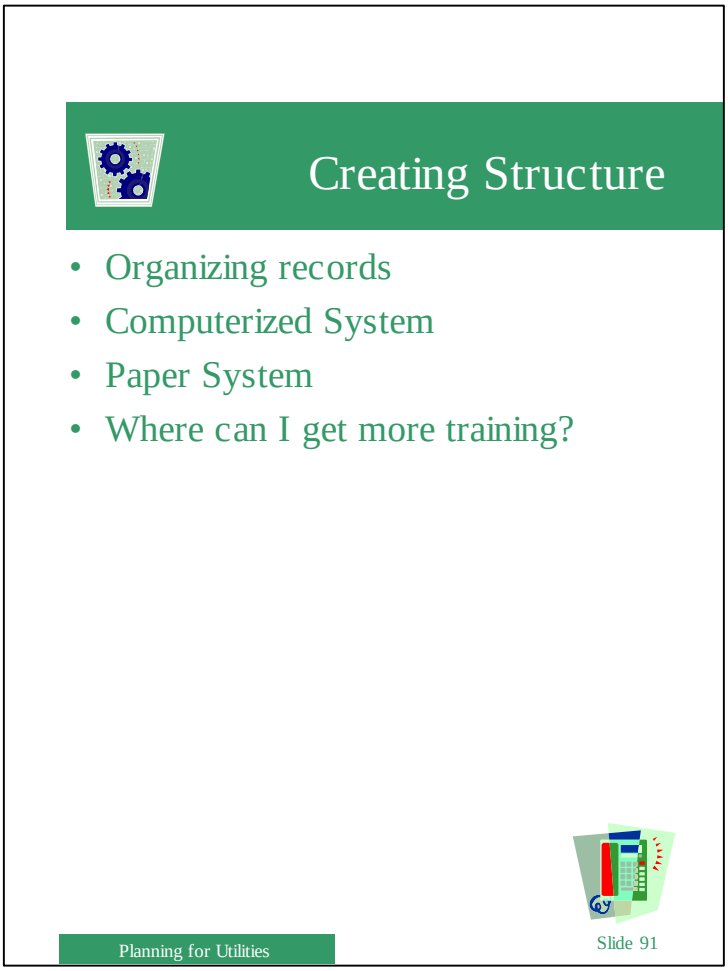
- how much money is coming and where it is going,
- who owes money for past utility bills,
- how much money has been collected from utility customers,
- how much has been spent by the utility on operations, maintenance, and
- what were the repair bills?

• *Types of Organizations You Could Create*. There are many different types of systems you could choose for your community. Two that work are the computerized system and the old-fashioned paper system. The computerized system usually relies on filed paper records as back up. Either system will require training to ensure competence.

• *Where can you get more training on how to create structure?* The state offers numerous training opportunities for records management and organizational management including the RUBA courses and Clerk's Training.

Creating Structure

In order to give meaning to the records your community keeps, you need to create structure.



Organizing Records. Records in of themselves are merely pieces of paper. They must be put together to tell a story of how you are doing. Even if you have handled every preventive task accurately and handled every penny of cash with utmost care and responsibility (the 1st C), you still have to put records together to tell a story of how you are doing.

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Where can you get more training on how to create structure? The state offers numerous training opportunities for record-management and organizational management including the RUBA courses and Clerk' s Training.

Instructor Tips

• Use this slide to talk about the kinds of reporting that is useful to utility managers for making decisions

• Students should learn what kinds of data should be collected and how that information can be used to make decisions.

Ideas for Real Life Examples

• Relate a story where having a certain report or piece of data was critical for making a decision that saved the utility a lot of money, or saved them from shutting down.

Potential Discussion Questions

• Are there any accountants in the room? How about utility managers? Do you prepare/get reports? How do you use the information? Any tips you can share with others in the class?

• Can you think of any ways that you might be able to use the data that you keep at your utility/community?

Speaker Notes

This section presents details on **comparing data**. Comparing data from one year to the next will be useful to the utility manager and the city or village council.

• *Progress Reports.* Use current and past records and data to create reports that compare information over time. These reports can be used to answer questions, assist with budgeting, and setting or adjusting rates.

• *Answer questions.* Review problems or changes from past experience. Use what you have learned to adjust operation and maintenance procedures, annual budgets, etc.

• *Budgeting.* Initiate a budget process for future operations - past records of revenues and expenses help monitor success of the utility

• *Unit Costs.* Compute unit costs of providing products or services - this will help set rates

• *Job Descriptions.* Keep employee job descriptions up-to-date in order to ensure that wages are spent efficiently. Conduct employee evaluations - time spent this year on preventive maintenance has decreased over last year because the employees are more efficient

Comparing Data

Comparing data from one year to the next will be useful to the utility manager and the city or village council. Utility managers can use these comparisons to make decisions.

For example, current and past records and data can be used as follows:

Progress Reports. Use current and past records and data to create reports that compare information over time. These reports can be used to answer questions, assist with budgeting, and setting or adjusting rates.

Answer Questions. Review problems or changes from past experience. Use what you have learned to adjust operation and maintenance procedures, annual budgets, etc.

Budgeting. Initiate a budget process for future operations - past records of revenues and expenses help monitor success of the utility

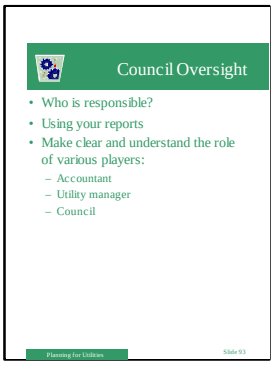
Unit Costs. Compute unit costs of providing products or services - this will help set rates

Job Descriptions. Keep employee job descriptions up-to-date in order to ensure that wages are spent efficiently. Conduct employee evaluations - time spent this year on preventive maintenance has decreased over last year because the employees are more efficient

Instructor Tips

• Use this slide to clearly inform students about the importance of council (elected official) oversight.

• Students should understand the role of the elected officials as it relates to utility management.



Ideas for Real Life Examples

• Present an example where the council was [wasn't] kept informed or knew [didn't know] their role. What happened? How was the utility affected?

Potential Discussion Questions

• Are there any council [utility managers] members in attendance? What kind of relationship do you have with the utility [council]? Are you [they] kept informed?

Speaker Notes

This section presents details on **council oversight**. Oversight by the policy-making body, whether it be a village council, tribal council or city council, is critical to the successful policy direction of the utility. Reports on the manager's efforts to keep the utility operating efficiently are key to effective policy direction.

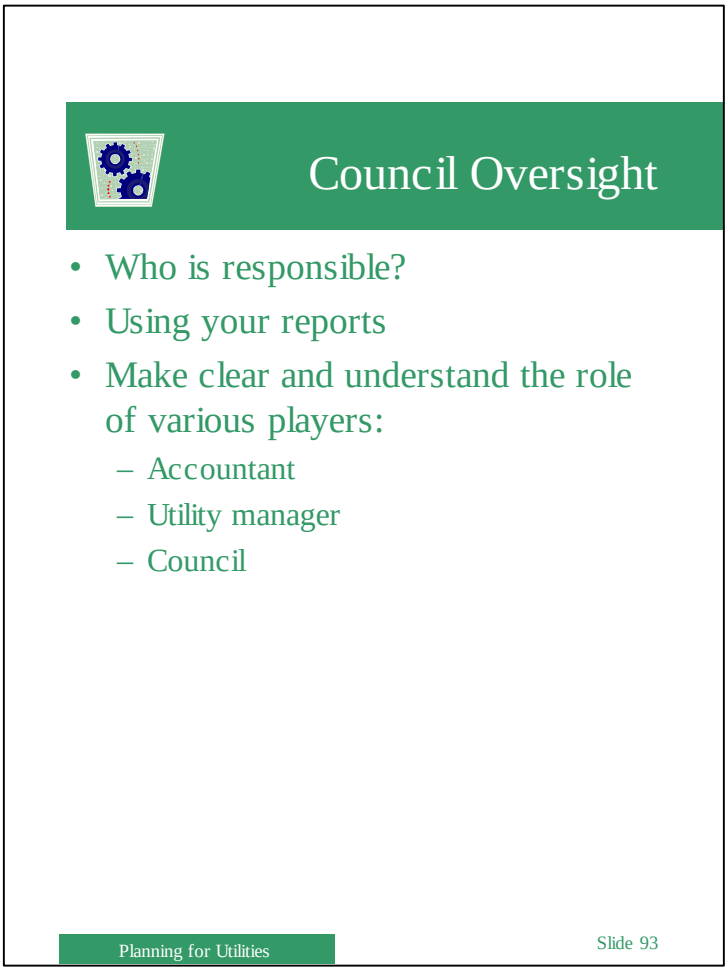
Review the following key points:

•*Understand who is responsible for utility oversight* - the policy-making body (city, village, or tribal council) has ultimate responsibility for the system. They have fiduciary responsibility - that is, they must ensure that the utility operates on a sound financial basis and benefits its users.

•*Use your reports effectively* - there should be a report each month called the "actual versus budget" that shows how the utility is performing financially versus what was budgeted. Reports will help identify problems that need to be fixed. Some problems may be fixed by the manager depending on the authority granted him/her. Some solutions may require council approval.

•*Roles and responsibilities of the accountant, utility manager and council should be clear* - employees such as the city manager, village administrator, accountant, and utility manager each have their specific responsibilities. They provide the policy-making body with information on specific aspects of the utility operation. However, the policy-making body is ultimately responsible.

Council Oversight



Oversight by the policy-making body, whether it be a village council, tribal council or city council, is critical to the successful policy direction of the utility. Reports on the manager' s efforts to keep the utility operating efficiently are key to effective policy direction.

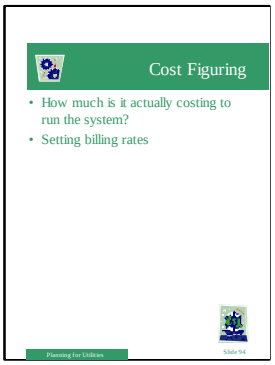
Who is responsible for utility oversight? The policy-making body (city, village, or tribal council) has ultimate responsibility for the system. They have fiduciary responsibility - that is, they must ensure that the utility operates on a sound financial basis and benefits its users.

Use your reports effectively There should be a report each month called the "actual versus budget" that shows how the utility is performing financially versus what was budgeted. Reports will help identify problems that need to be fixed. The utility manager may be able to resolve some problems. Some solutions may require council approval.

What are the roles and responsibilities of the accountant, utility manager and council? Employees such as the city manager, village administrator, accountant, and utility manager each have their specific responsibilities. They provide the policy-making body with information on specific aspects of the utility operation. However, the policy-making body is ultimately responsible.

Instructor Tips

• This is an overview of cost-figuring. Direct students to the more detailed DCED courses on Financial Management.



Ideas for Real Life Examples

• Bring copies of existing rate setting procedures and ordinances from some Alaska communities.

• Can you think of a community that had no idea how much it cost to run the system? How did they set rates?

Potential Discussion Questions

• How do you set rates? Do you know how much it costs to run your utility? How do you handle people that don't pay?

Speaker Notes

This section presents details on **cost figuring**. This means to determine costs of user services and set rates. Accurate cost figuring is critical to long-term successful operation and maintenance.

Review the following aspects of cost figuring or rate setting.

• *How much is it going to cost to run the system?* The community should determine costs of user services and set rates. The setting of utility rates is critical to the viability of the utility. Setting rates ensures that the utility provides adequate money for proper management, operation, maintenance, renovation, or expansion.

• *Who sets the rates?* Policy-making bodies have responsibility for long-term, efficient utility operation and thus are responsible for setting the rates. A written procedure must be established and adopted by the policy-making body and included in a utility ordinance.

• *How do you set the rates?* Fees must cover operating costs and should provide a "savings account" for future repairs. Rates should be fair to all. One method commonly used is where the cost billed to the customer is proportional to the amount of cost incurred to provide the service to the customer. Rate analysis and setting is best accomplished with the help of qualified personnel. RUBA may be able to help or refer you to someone who can.

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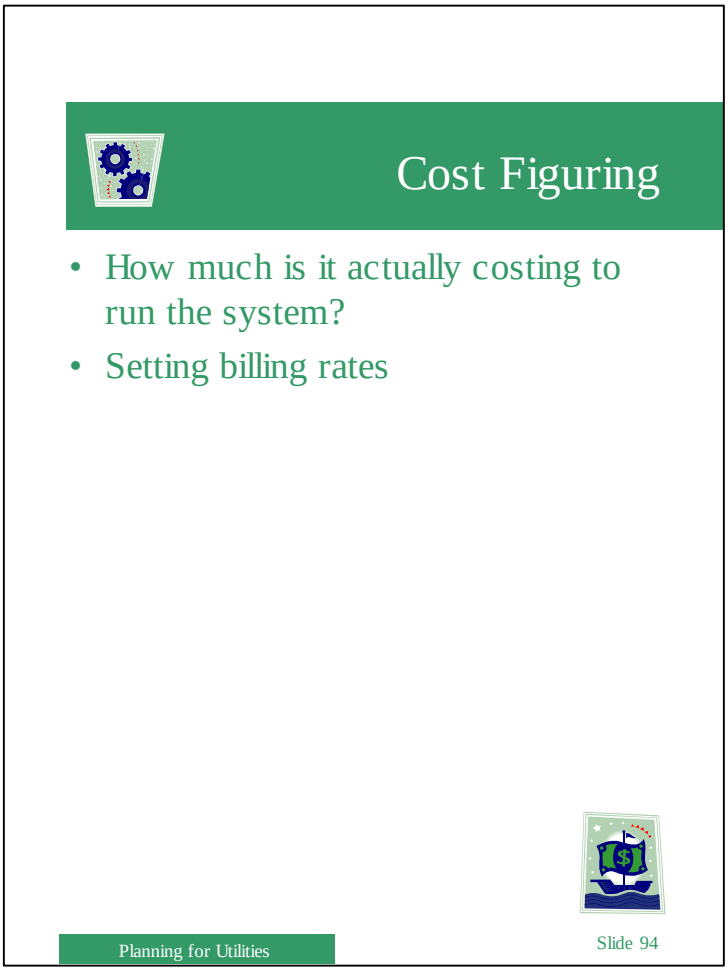
Who sets the rates? Policy-making bodies have responsibility for long-term, efficient utility operation and thus are responsible for setting the rates. A written procedure must be established and adopted by the policy-making body and included in a utility ordinance. A utility ordinance contains the rules and regulations of your utility.



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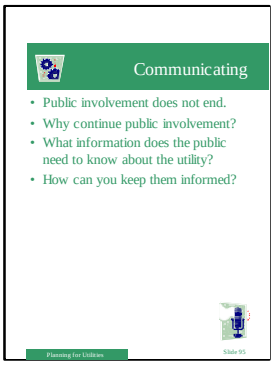
Instructor Tips

• Remind students that after the master plan is implemented and projects are built the public now become the customers. As a utility you essentially work for the public.

• Remember that text highlighted in **green** represents potential test questions.



Ideas for Real Life Examples

• Relate some different ways that you know of that are commonly done to keep customers informed (notices in the utility bill) others?

Potential Discussion Questions

• Can you think of some times during the operation or maintenance of a utility that it would be important to communicate with the customers? How about a rate change? Planned service interruption? Others?

Speaker Notes

This section presents details on **communication** that should occur as part of operations and maintenance of the utility.

Review the following key points:

• *Public involvement does not end once the utility is up and running*. It does change form, however, and becomes more a part of the utility management system. As part of creating the organizational structure for the utility, be sure to incorporate regular communication with residents as part of your management approach.

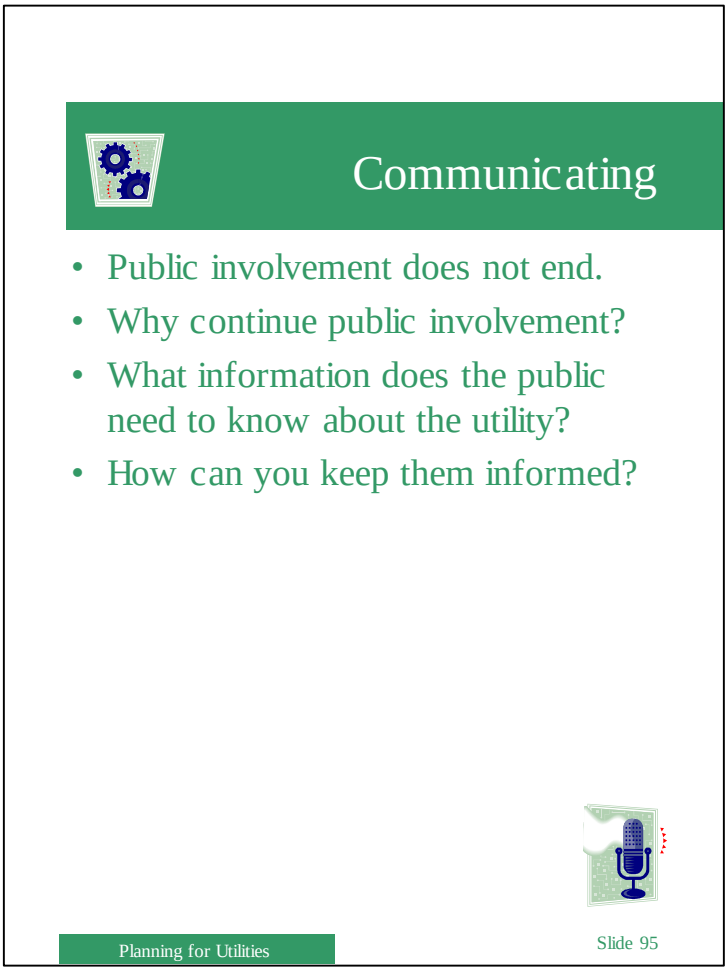
•*Why should you continue to involve the public?* It's about keeping people informed. Along with its fiduciary responsibility, the council and utility manager are responsible for communicating with the public about the utility's performance. Continued support for the utility budget, rates and personnel to operate and maintain the utility depend upon public understanding. They need to know how it is working, where the problems are, and the city or village's plans for resolving them.

• *What information does the public need to know*? Tell them about the annual utility budget. Tell them how the utility is performing this year compared to last year. Explain the rate structure - involve the community in setting rates.

• *What techniques work*? Besides the official reporting that occur, in order to effectively communicate the budget and other financial aspects of the utility, organize a public meeting during budget time. Send out surveys to find out what people think about the utility operation. If problems arise, use the structure problem-solving technique to work it out in a professional and open manner.

Communication

Communication should continue to occur as part of operations and maintenance of the utility.



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Goal of this Lesson

To review with students next steps they should be taking in planning and assessing their planning needs. In addition, providing a review of what was covered in the course.

Educational Objectives

After completing this lesson participants should be able to -

• determine if they are ready and capable to begin the planning process

• successfully complete the final test.

Schedule

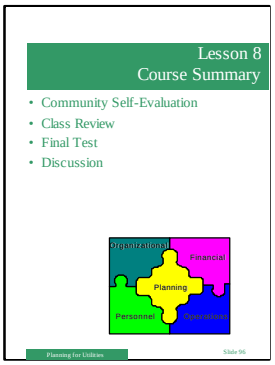
Lesson: 4.5 hours

Length:

- Community Self Evaluations 1 hour
- Class Review .5 hours
- Final Test 1 hour.
- Discuss Final Test .5 hours
- Exercise 15 minutes

Equipment/Supplies:

- Overhead projector, screen, markers and flip chart.



Overview Slide

Speaker Notes

This is an overview slide of the **course summary** lesson. Briefly review what will be covered in this last lesson:

- *community self-evaluation* - action planning and assessing community capacity
- *class review* - materials presented in this course, test overview, questions
- *final test* - see how you did compared to the pre-test
- *discussion/wrap up*- review test results

Lesson 8 Course Summary

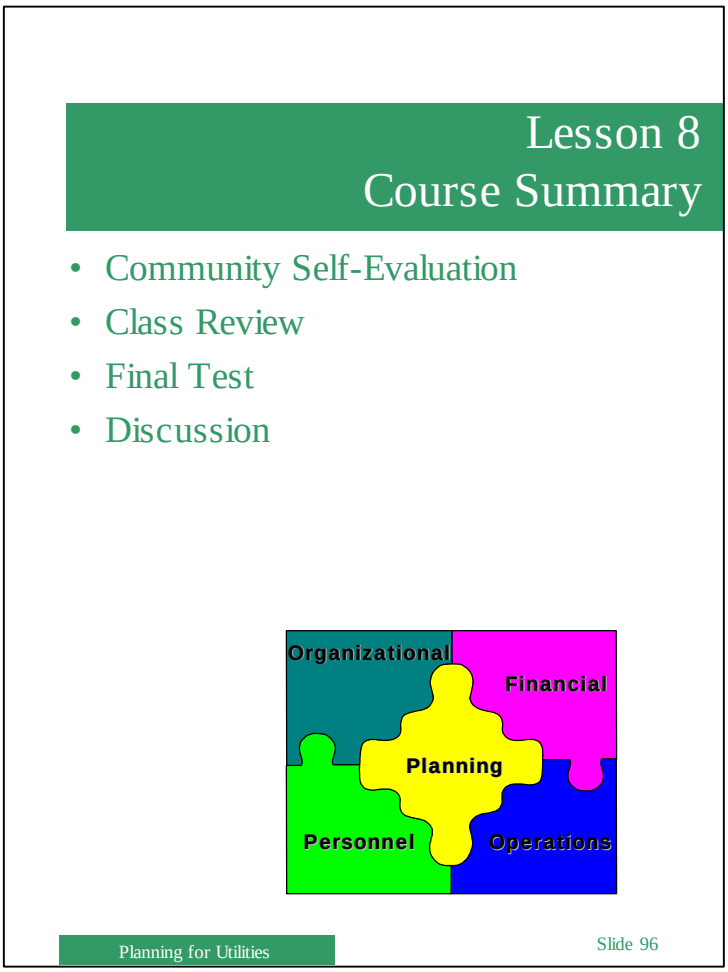
Lesson 8:

Length: 4.5 hours

- Community Self Evaluations 1 hour
- Class Review .5 hours
- Final Test 1 hour.
- Discuss Final Test .5 hours
- Exercise 15 minutes

The last lesson covers the following topics:

- *Community self-evaluation* - action planning and assessing community capacity
- *Class Review* - materials presented in this course, test overview, questions
- *Final Test* - see how you did compared to the pre-test
- *Discussion/wrap up*- review test results



Learning Objectives

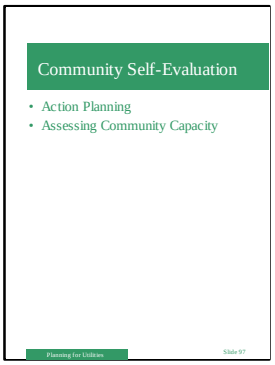
To review the next steps to be taking in planning and assessing planning needs. To provide a review of what was covered in the course.

After completing this lesson students should be able to:

- determine if they are ready and capable to begin the planning process
- successfully complete the final test.

Instructor Tips

• The community self evaluation is intended to help students determine what they need to do to even begin to use the guidebook and start into a planning process.



Ideas for Real Life Examples

• Relate a story about a community that started into a plan but really shouldn't have or about a community that launched into a project when they really should have done some planning.

Potential Discussion Questions

• Where are you in your community's planning effort?

• Have you determined if you are ready to start the master planning process?

Speaker Notes

This section presents details on completing a **community self-evaluation** and what is involved in action planning and assessing community capacity.

The bulk of the information that we have to present has been presented. But when giving this class in the past, the following questions always come up "I understand the class materials, I am just not sure if our community is ready to launch into a planning process. Are we even ready to pick up the guidebook and start a plan? How do I get my community from where we are today and into a planning process" To help you answer those questions we will cover a few important topics to help you determine where your community is at and what you need to do to start your plan.

There are two main topics we will cover:

Action Planning. In the action planning unit we will try to identify discrete actions that you and your community can take to get your community ready to begin planning.

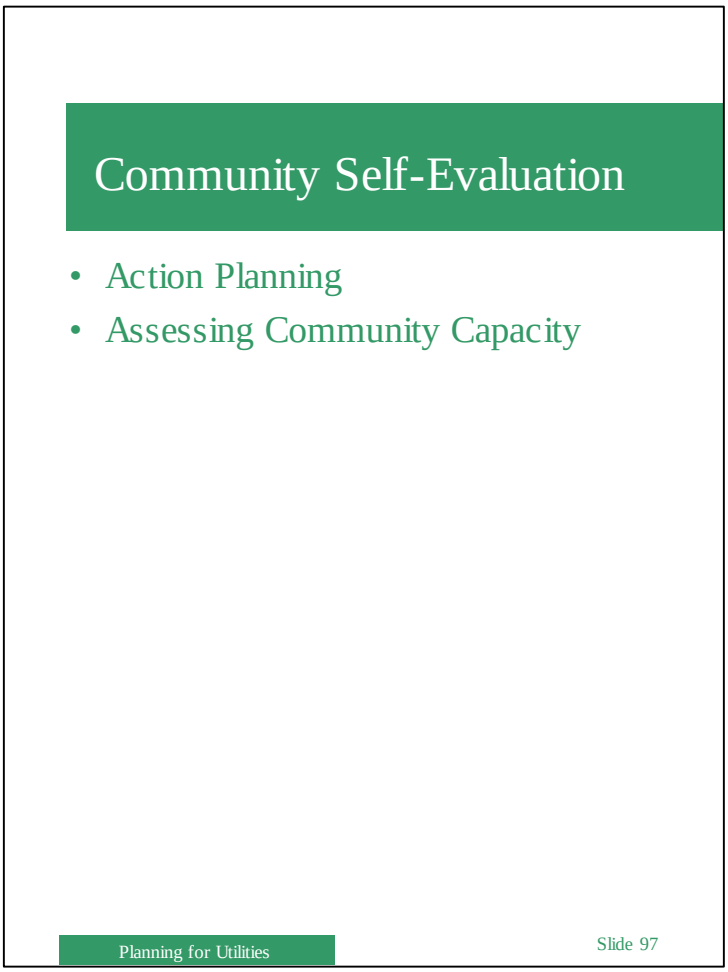
Assessing Community Capacity. In the assessing community capacity discussion, we will try to lead

Community Self Evaluation

What is involved in action planning and assessing community capacity?

The bulk of the information on this topic has already been presented. However, in the past, the following questions have come up:

- "I understand the class materials, I am just not sure if our community is ready to launch into a planning process."
- "Are we even ready to pick up the guidebook and start a plan?"
- "How do I get my community from where we are today and into a planning process?"



The two main topics covered in this section to help you answer the above questions are:

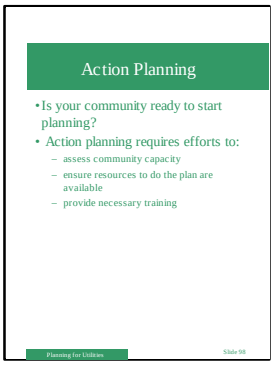
Action Planning. How to identify discrete actions that you and your community can take to get your community ready to begin planning.

Assessing Community Capacity. How to determine if your community is capable of doing a master plan and owning, operating, and maintaining a water and sewer system.

Instructor Tips

• Note to students that we have come full circle. We are again talking about those things they need to do and think about to "Get ready to plan."

• IMPORTANT: Pass out the action planning exercise at the beginning of the lecture.



Exercise 18

Ideas for Real Life Examples

• Paint a hypothetical scenario of where you think the student's communities are in the spectrum of being ready to start a planning process.

Potential Discussion Questions

• Has anyone done an action plan? What did they include in the plan?

Speaker Notes

This section presents details on **action planning** - the definition of action planning and key elements included in the process.

•*What is action planning*? It is the plan for what my community needs to do over the next 1-12 months to be ready to start into our planning project. The plan should identify what actions need to happen, who should do them, and when they should be done by.

•*What should I do to prepare my action plan*?

- Conduct an assessment of the community's capacity to build, operate and maintain the system they have chosen.
- Ensure that the community has the necessary resources to carry out the Master Plan and operate the system.
- Provide the necessary training for staff to do the work required of the Master Plan.

Conduct Exercise 18 Action Planning

Purpose of Exercise - to assist students in conducting a "self-evaluation" as the lesson progresses through the action planning steps.

Action Planning

What is action planning?

It is the plan for what my community needs to do over the next 1-12 months to be ready to start into our planning project. The plan should identify what actions need to happen, who should do them, and when they should be done by.

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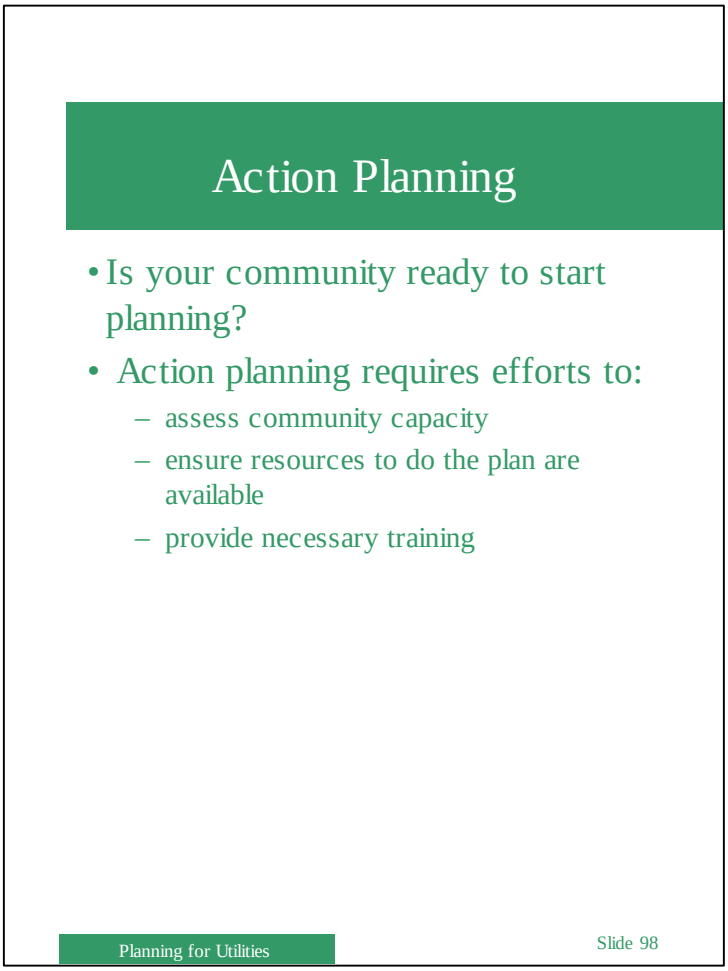
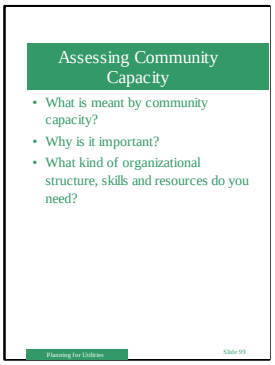


Instructor Tips

• Use this slide to reiterate the points that come under community capacity. If the community does not have the capacity to do the plan will they have the capacity to operate and maintain the system?

• Make sure to point out the questions in Exercise 18 that deal with this topic.



Ideas for Real Life Examples

• Talk about planning project that have failed [succeeded] because of a community capacity issue.

Potential Discussion Questions

• Now that you have taken the course, what kinds of skills, resources etc do you think you will need. Do you have these in your community? What additional skills or resources do you need to get?

Speaker Notes

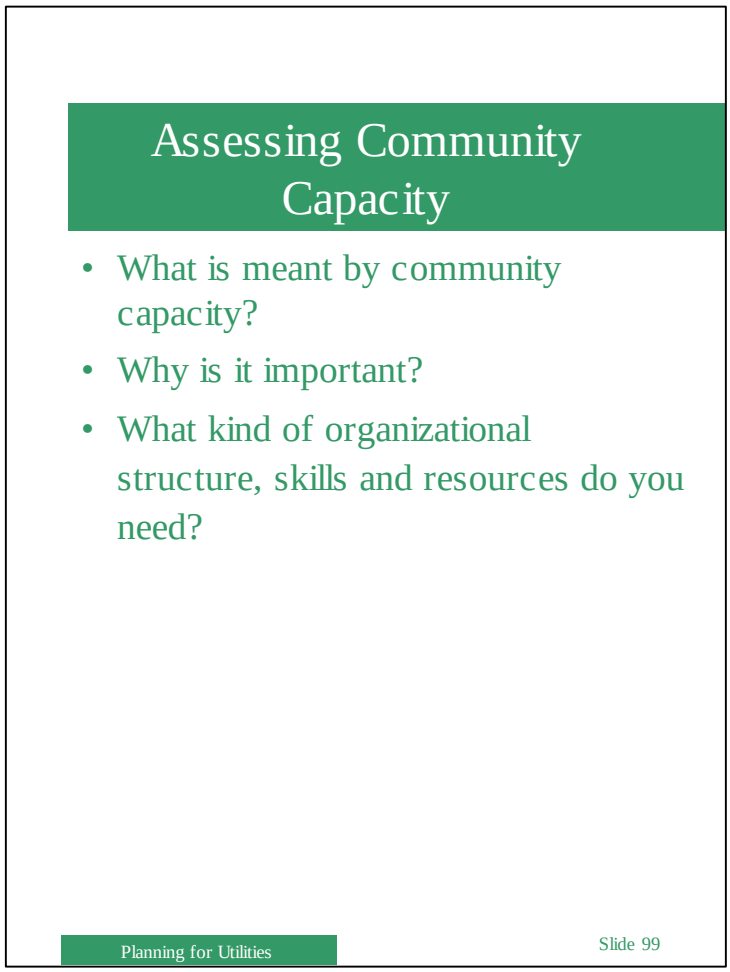
This section reviews the concept of **community capacity** first introduced in this course in the section called "Getting Ready to Plan" lesson. Review the following key points:

• *What is meant by community capacity?* You will need to perform an assessment of your community to determine its capacity to respond to the planning, construction, operation and maintenance aspects of a sewer or water system. In planning for sanitation improvements, a community must determine if it is able to build, operate and maintain a project. It is a good idea to decide this before you launch fully into a plan to build something.

• *Why is it important? How does it affect the ability to plan, construct, operate and maintain a water and/or sewer system?* Assessing your community's ability must be done early in the planning process and re-evaluated throughout the process. Knowing your community's abilities is a key consideration when selecting the preferred alternative. Many projects have been planned, designed, and constructed when later it was determined that the community did not have the capacity to run the system or improvement.

• *What kind of organization structure and resources do you need?* It is difficult to plan, construct and operate a system in you do not have the necessary skills and resources. It may be also necessary to review and make recommendations for management changes to meet the challenge of planning, building, and operating a system before you even begin to plan for that system. Be sure to clearly define utility system staff roles and responsibilities.

Assessing Community Capacity



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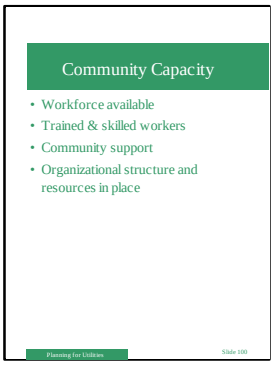
Instructor Tips

• Try to help students start to think about the types community capacity issues they might have in their community that should be overcome before they start to plan.

•Make sure to point out the questions in Exercise 18 that deal with this topic.



Ideas for Real Life Examples

• Talk about planning project that have failed [succeeded] because of a community capacity issue related to labor availability.

Potential Discussion Questions

• Now that you have taken the course, what kinds of workforce do you think you will need. Do you have these people in your community? What additional people do you need to get? Who should be responsible to find those people?

Speaker Notes

This section discusses in more detail the four key aspects of **community capacity.**

As each community assesses whether or not they are ready to plan, they should ask themselves the following questions:

•*Workforce Availability.* Are there people in the community that could do the work? Do you know who they are and their interest in the project? In some communities there are too few people to administer the project. This assessment is critical for both Step 1 in the planning process and also in Step 5 Putting the Plan into Action. What actions do you need to take to make sure the necessary workforce is available?

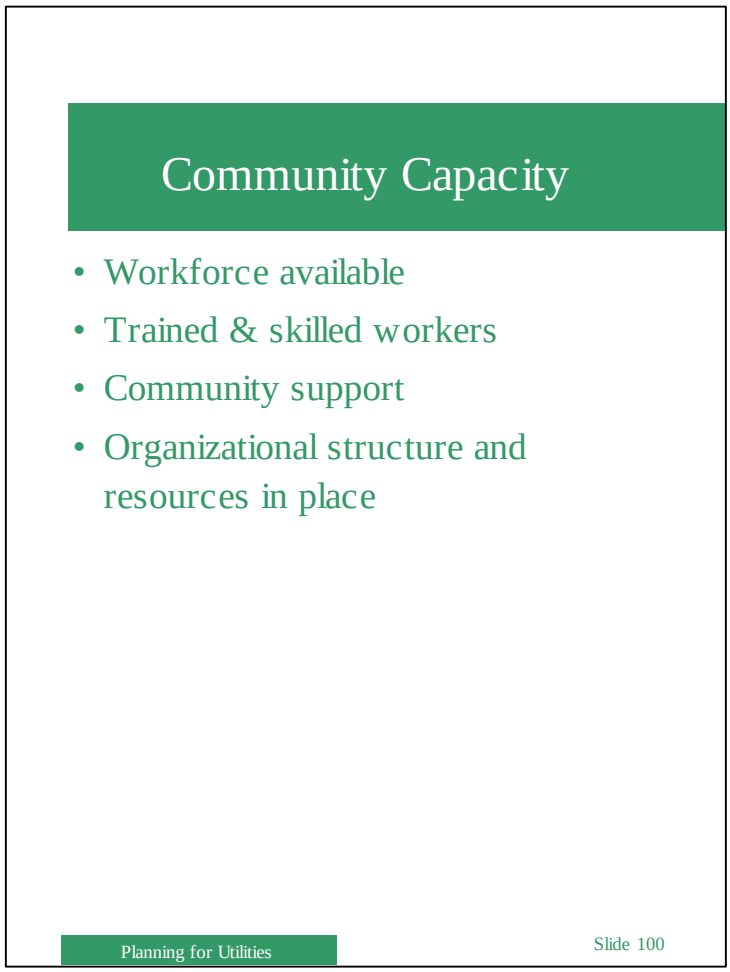
•*Trained and skilled workers.* Even if you have enough people to do the work, do they have the training, expertise, and skills to do the work? They may need special training or education to do the job effectively.

•*Community support.* Can the community support people to do the work? Is village or city budget adequate to pay staff salaries and benefits? Is there a place for them to work (city office, etc)? If training is needed, does the community have the ability to pay for it?

•*Organizational structure and resources.* Does the community have the structure and policies in place to run a system? Is the organization clear and does everyone know their role in the process? Have funding sources been secured for both the planning and construction parts?

Community Capacity

There are four key aspects of **community capacity.**



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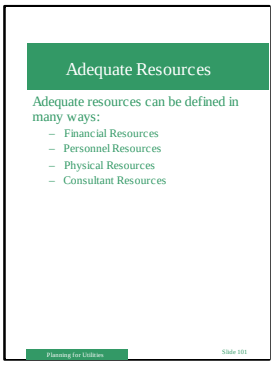
Instructor Tips

• Try to help students start to think about the types community capacity issues they might have in their community that should be overcome before they start to plan.

• Make sure to point out the questions in Exercise 18 that deal with this topic.



Ideas for Real Life Examples

• Talk about planning project that have failed [succeeded] because of a community capacity issue related resources availability.

Potential Discussion Questions

• Now that you have taken the course, what kinds of resources do you think you will need to do your plan? Do you have these financial, personnel, or physical resources in your community? What additional resources do you need to get? Who should get the resources?

Speaker Notes

This section presents details on the differing types of **resources** a community will need in order to be successful. As before, review the following questions with students:

•*Financial Resources.* Now that we have completed the Master Plan, do we have funding to build, operate and maintain the system we have selected?

•*Personnel Resources.* Do we have the ability to pay staff? Does staff have the time and expertise? Do we need to hire a consultant?

•*Physical Resources.* Do we have physical resources - computer, office equipment, office space?

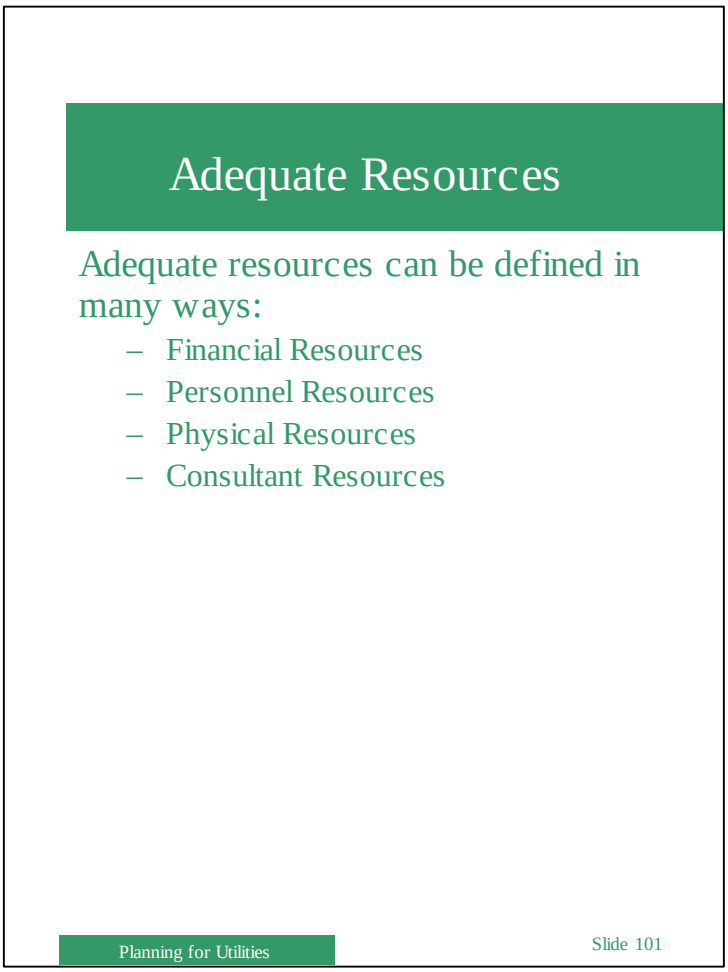
Adequate Resources

There are different types of **resources** a community will need in order to be successful.

Financial Resources. Now that we have completed the Master Plan, do we have funding to build, operate and maintain the system we have selected?

Personnel Resources. Do we have the ability to pay staff? Does staff have the time and expertise? Do we need to hire a consultant?

Physical Resources. Do we have physical resources - computer, office equipment, office space?



Instructor Tips

• Review Technical Appendix D for details on funding sources - includes the list below as well as additional sources.

•Make sure to point out the questions in Exercise 18 that deal with this topic.

References

- SPG Pages 31-34
- SPG Technical Appendix D.

Ideas for Real Life Examples

• Reiterate some of the sources for funding a plan. From your experience how much do communities need to do a plan?

Potential Discussion Questions

• Have you lined up funding for your plan? Where can you get funding? Who do you need to call. Who will make the call.

Speaker Notes

This section presents details on **funding a plan**. Discuss the difference between funding a plan and funding construction. Review possible funding sources with students

•*Funding a Plan.* Funding for planning the project - the Master Plan - is now replaced with funding construction. The master plan established the long range direction for the utility. Now the community should be prepared to secure funding for each phase of the project as outlined in the Master Plan. You should know when money will be needed for the projects, where to get it, and when grant or funding applications are due.

•*Funding Sources:*

- Village Safe Water
- Alaska Native Tribal Health Consortium
- RDA
- CDBG & ICDBG
- BIA
- Capital Matching Grants
- Other

Funding a Plan

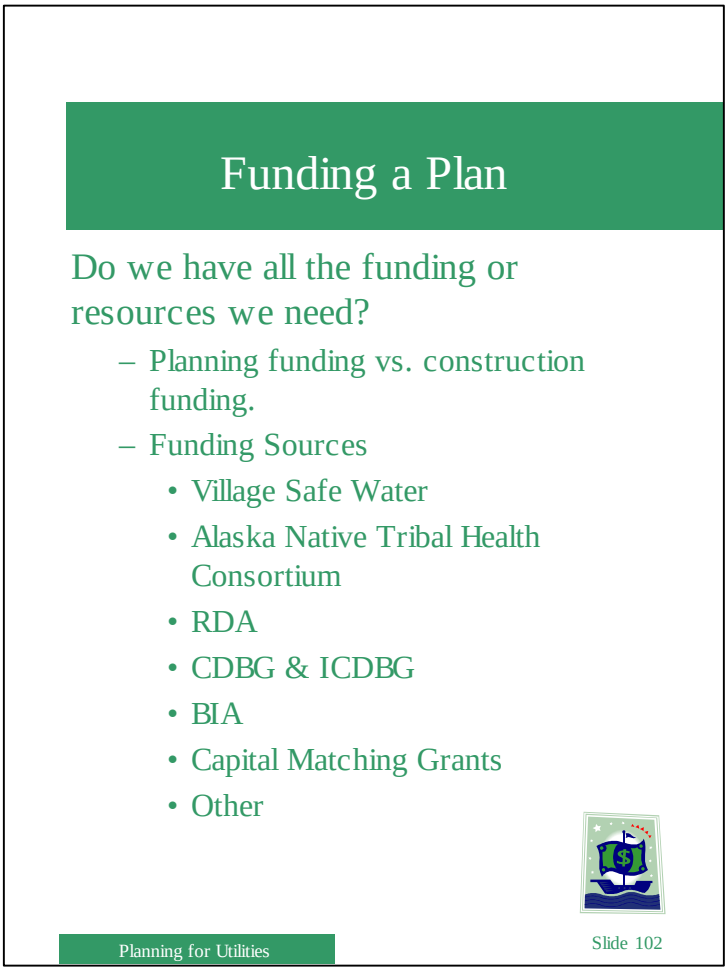
This section presents details on **funding a plan**. There is a big difference between funding a plan and funding construction.

Funding a Plan. Funding for planning the project – the Master Plan – is now replaced with funding construction. The master plan established the long-range direction for the utility.

Now the community should be prepared to secure funding for each phase of the project as outlined in the Master Plan. You should know when money is needed for the projects, where to obtain it and when the grant or funding application is due.

Funding Sources:

- Village Safe Water
- Alaska Native Tribal Health Consortium.
- RDA
- CDBG
- BIA
- other



Instructor Tips

• Make sure to point out the questions in Exercise 18 that deal with this topic.

Ideas for Real Life Examples

• Talk about planning project that have failed [succeeded] because issue related untrained people running the plan.

Potential Discussion Questions

• Now that you have taken the course, what kinds training do you think you will need to do your plan? Do you have trained personnel in your community that can do the planning? What additional training do you need to get? Who should get the training?

Speaker Notes

This section presents **training opportunities**. In many instances, staff will need training in order to successfully conduct your plan or operate and maintain the utility. Briefly review the different programs available from state and federal agencies.

• *Utility Management Training Series.* The Rural Utility Business Advisor (RUBA) program offers a utility management training series with courses on organizational management, personnel management, operational management, financial management and planning management. *Financial Management Training*

• *Council Training: Roles and Responsibilities.* This course is offered by DCED in cooperation with the Alaska Municipal League.

• *Certified Operator Training for Primary and Backup Operators*

• *Record Keeping and Payroll Training*

• *Clerk's Training.* This course is offered by DCED in cooperation with the Alaska Municipal League.

• *Planning for Utilities Workshop.* The course you are currently enrolled in!

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Instructor Tips

• Refer to the examples you bring as you move through the lesson. Point out the differences between RFPs, SOQs.

• Make sure to point out the questions in Exercise 18 that deal with this topic.

Ideas for Real Life Examples

• Bring copies of Request for Proposals, Statement of Qualifications, and Scopes of Work, including project budgets and schedules, from existing (completed) master plan projects.

• Talk about planning project that have failed [succeeded] because of having the wrong or no consultant.

Potential Discussion Questions

• Have any students worked with consultants before? Why did their community choose to hire one?

•Were you involved in the hiring process? What did you learn from it?

Speaker Notes

This slide presents information on when a community might want to **hire a consultant**. Key steps for students to understand include:

• *How do we go about retaining a consultant*? Develop a statement of qualification and/or request for proposals that defines the help you want. Clearly define the need for the project - before you begin the consultant selection process, be clear about the scope and nature of the project. Include a description of the selection process.

• *How do we know they are qualified to do the work we need done*? Get consultant recommendations from other rural communities. Compare notes with other communities that have used consultants for a master plan and find out what has worked well and what has not. Check references and ask around about prospective companies. Interview prospective companies to see if you can work together.

• *What about cost*? Obtain several cost estimates.

• *What is the consultant's role in the project*? Remember the consultant is working for you not leading the effort. The community is in charge of making decisions.

In addition to the above steps, each community work group and planning coordinator should also know the law. There may be local laws and regulations regarding the selection of consultants. If you have questions, consult your legal counsel.

Be sure to confirm leadership commitment and agree ahead of time that the project should be undertaken.

How do you know when to hire a consultant?

• staff is too busy
• staff needs technical/expert help
• project requires an objective evaluation of a complex situation that is too emotional for the community
• consulting the work out will avoid unnecessary legal obstacles

Hiring a Consultant

When will a community want to **hire a consultant**?

How do we go about retaining a consultant? Develop a statement of qualification and/or request for proposals to define the help you want. Clearly define the need for the project. Be clear about the scope and nature of the project. Include a description of the selection process.

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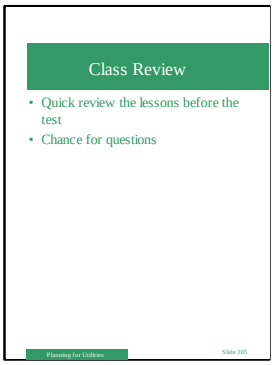
How do you know when to hire a consultant?

- staff is too busy
- staff needs technical/expert help
- project requires an objective evaluation of a complex situation that is too emotional for the community
- consulting the work out will avoid unnecessary legal obstacles

Instructor Tips

• Use this slide to recap the entire course.



Potential Discussion Questions

• Ask students if they have any questions about the material covered in the course.

Speaker Notes

Lesson 1. To understand the basic outline of the DCED Utility Training program and the outline of the 8 Lessons that make up the Utility Planning Course. Students learned to identify the 6 courses that make up the DCED utility training program; identify and briefly describe the 8 training lessons that make up the Utility Planning Course.

Lesson 2. To help participants understand what planning is, why it is important, and what it will take to have a successful planning process before they begin to plan. You should have learned to define what planning is and why it is important; identify the keys that will make their planning efforts a success; define stakeholders; know why to form a work group; understand what community capacity means and how it applies to planning.

Lesson 3. To help participants understand why it is important to identify specific issues/problems in the community early in the process, how to set goals and objectives for the future, and how to collect the right information. You should have learned to understand how to identify a problem and how to set goals and objectives; describe how to collect technical information; use maps; understand forecasting techniques.

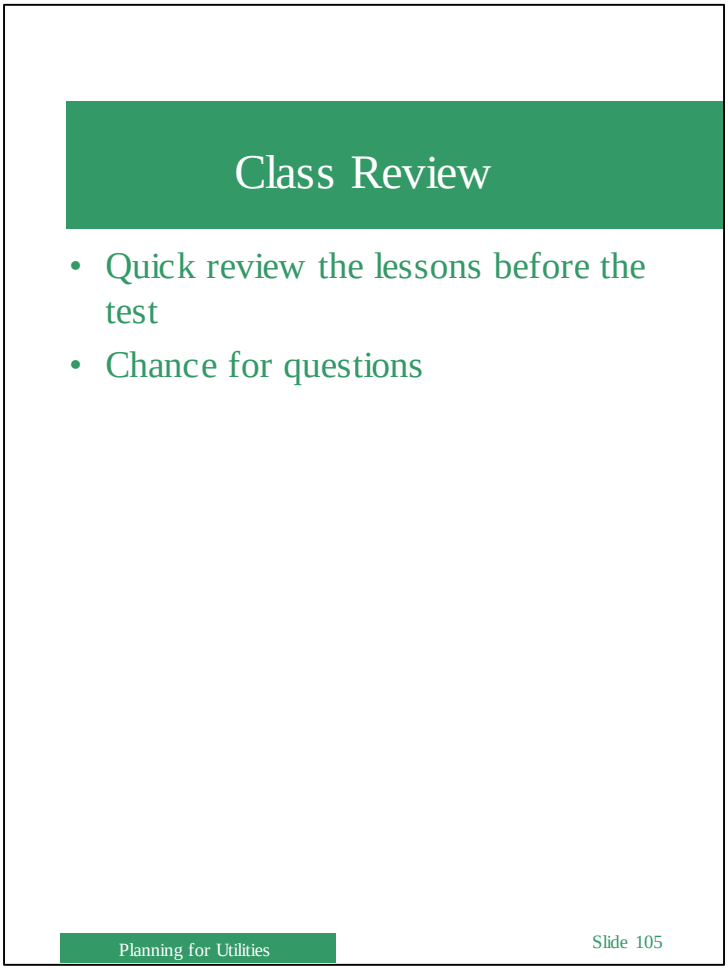
Lesson 4. To help students learn how to create sanitation plan alternatives. You should have learned to create ideas and form alternatives; create alternatives that provide useful comparisons in technologies or locations; screen or eliminate alternatives that are infeasible or unrealistic.

Lesson 5. To help students learn how to evaluate a set of alternatives. To learn how to organize the alternatives so they can be evaluated efficiently and effectively. You should have learned to evaluate a range of alternatives using the criteria specified in the lesson; effectively organize and present choices for consideration; understand the terms "evaluate" and "criteria"; be able to identify several criteria.

Lesson 6. Selecting a preferred alternative is about making a decision. Students should understand what has led up to this point in the planning process and how to determine if their community is ready to make a decision. You should have learned to understand terms like preferred alternative, preliminary engineering and capital; improvement program; know what belongs in a CIP, draft master plan, and final master plan.

Lesson 7. Putting a plan into action is an important part of the master planning process. Students should understand what it takes to implement a master plan. You should have learned to understand what has to happen before construction, during construction, and after the project is built; generally grasp the concepts of project management, permitting, and preventive maintenance

Class Review



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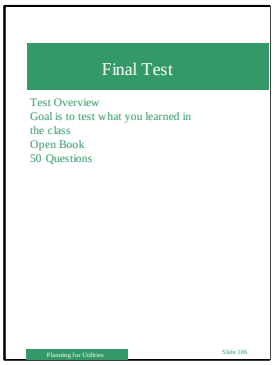
- *Lesson 6.* You should have learned to understand terms like preferred alternative, preliminary engineering and capital; improvement program; know what belongs in a CIP, draft master plan, and final master plan.
- *Lesson 7.*. You should have learned to understand what has to happen before construction, during construction, and after the project is built; generally grasp the concepts of project management, permitting, and preventive maintenance

Instructor Tips

• Provide an overview of the test procedures, types of topics, types of question (true false, multiple choice) etc.



Exercise 19 Final Test

Potential Discussion Questions

• Ask students if they have any questions about the test before they begin.

Speaker Notes

In this section, go over the final test instructions.

• Tell the students that the **Final Test** is a tool for assessing their understanding of utilities management planning after the course. It is designed to cover a range of planning concepts.

• Students should now be familiar with planning and should score better on it than they did in the pre-test..

• The goal is to test what they know after being presented with the course information.

• The test is closed book and contains 50 questions.

• Students have 45 minutes to complete the test. Once everyone has completed the test, take another 15 minutes to review and discuss the answers and any questions.

Conduct Exercise 19 Final Test

Final Test

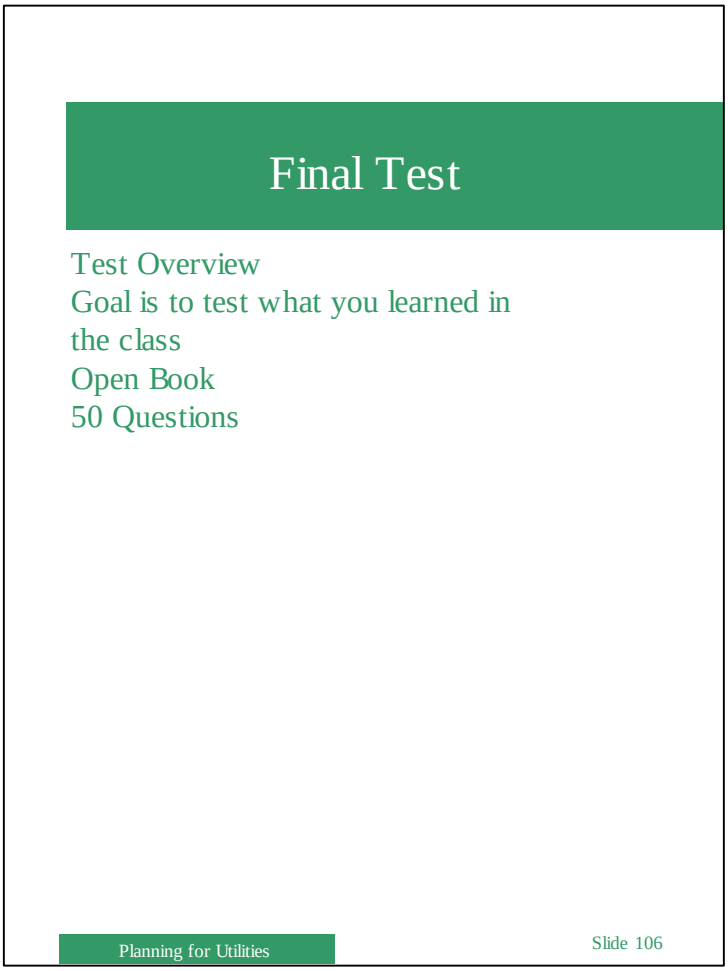
The **Final Test** is a tool for assessing your understanding of utility planning after the course.

It is designed to cover a range of planning concepts.

You should now be familiar with planning and score better on the final test than you did on the pre-test. The test is closed book and contains 50 questions.

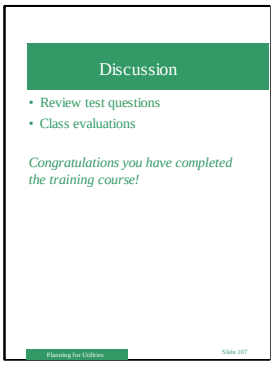
Students have 50 minutes to complete the test.

Once everyone has completed the test, there will be an opportunity to review and discuss the answers and any questions.



Instructor Tips

• Administer the test, watch the time so there is an opportunity to review the test and student comments.



Ideas for Real Life Examples

•

Potential Discussion Questions

•

Speaker Notes

In this section, review test questions with class.

Conduct class evaluations.

Discussion

Test questions will be reviewed with class.

Class evaluations.